EVERY-DAY PRESCRIPTIONS
WITH
HINTS ON TREATMENT

(WITH MORE THAN THREE HUNDRED PRESCRIPTIONS)

By

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PREFACE

To write elegant prescriptions is well-nigh a lost art With the advancement of therapeutics the nature of prescriptions has changed. They have been simplified—simplified to the detriment of competence.

Common diseases occuring in every-day practice, have been dealt with and arranged alphabetically in this booklet. To add to several special topics have ben incorporated They are—Acute Poisoning—of common occurrence, including poisoning in children Emergency Kit with important drugs Solutions for intravenous administration Transfusion of human Whole Blood and its Derivatives Insulins in the Treatment of Diabetes Mellitus Treatment of Pneumonia according to etiological causes with chemotherapy and anti biotics Present-daay Immunization against Diphtheria, Tetanus and Whooping-Cough and Diet as Therapeutic help in Common Diseases.

Treatment follows diagnosis. It is needless to say that early diagnosis and treatment help speedy recovery

Indian Union, being a poor country the attending physician should consider the purse of the patient and try his best to bring down the cost of treatment as far as possible. Efficiency of treatment depends upon careful management, use of pharmacopeial and standard products, of reliable and dependable manufacturers. It is known to all experienced practitioners, due to high temperature and humidity products even of standard quality soon deteriorate, if not kept properly in very low temperature. One should be aware of this and should guard against spurious drugs and adulterated foods.

I beg to acknowledge with thanks, kind permissions granted to me, to quote from the following esteemed journals, by their famous editors—such as the Journal of the American Medical Association, the American Practitioner and Digest of Treatment, the Delware State Medical Journal the British Medical Journal, the Practitioner and the Lancet.

Thanks are due to the following writers, who have kindly per mitted me to quote from their writings—Messers J B. Kirsner J J Silverman, M Trudeau, E. A. Erf Leonard Rogers, D Williams, and N J Mody

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Thanks are due to the Member Secretary Indian Pharmacopoeia committee to quote from the Indian Pharmacopoeia, 1955 and also to the British Pharmacopoeia Commission for permission to quote from the British Pharmacopoea, 1958

Thanks are due to the following eminent colleagues who have kindly revised some subjects of the book.

Name of the subject.	Revised by
Diet—in Common Diseases.	Dr R. K. Pal Professor of Physiology R. G Kar Medical College. Calcutta.
Eye—Diseases	Dr K. D Saha Professor of Ophthalmology R G Kar Medical College and Hospitals, Calcutta, and

	Dr C. K. Ghose Ophthalmic—Surgeon Calcutta.
Acute poisoning of Common Occurrence	Dr S Ray Professor of Forensic and State Medicine Medical College, Calcutta. R. G Kar Medical College Calcutta.
Methylated Spirit Poisoning.	Dr K. N Bagchi Principal, National Medical College, Calcutta and Late Chemical Examiner to the Government of India.
Insomnia.	Dr S. Banerjee. Professor of Psychiatry R. G Kar Medical College and Hospitals, *Calcutta*

A short bibliography has been given at the end of the book together with a list of books consulted. There are occasional repetitions for emphasis I am grateful to SJ Anil Guha for for reading the proof All suggestions for improvement will be thankfully received.

Calcutta.
October 1959

Prankumar Guha.

To

MY PARENTS

CONTENTS

EVERY DAY PRESCRIPTIONS
with Hints on Treatment.

Achlorhydria. (Achylia Gastrica, Hypochlorhydria).

1 *Re* Acid hydrochlor dil—m 20
Tinc Nux vomica—m 10
Aqua Menth pip Conc—m 5
Aqua ad—1 OZ.

Mist

Sig. One dose three times a day after meals, well diluted with water

Re Acid hydrochlor dil—m 30
Glycerini papain —m 30
Aqua ad—1 OZ.

Mist

Sig. One dose three times a day after meals well diluted with water

Re Acid hydrochloric dil—m 120
Sweetened water ad—4 OZ.

Mist

Sig. To be sipped through a glass tube, two to three times a day after meals.

2 Meat extract or protein hydrolysate—one ounce to be taken immediately before meals.

3 DIET—should be well balanced, palatable to the individual taste Avoid fatty foods.

Acidity hyper

1 DIET—Avoid highly spiced diet, worry and anxiety during meals, hot and hasty meals. Diet should contain milk, butter, cheese, pounded cocoanut kernel expressed juice of cocoanut kernel etc.

2. Use of antacids.

Re Sodium bicarbonate—gr 10 to 15
Calcium carbonate—gr 10 to 15
Magnesium Carbonate—gr. 10
(Heavy)

Pulv

Sig. One powder thrice daily one hour after meals.

Re Gelatum Alumini Hydroxidi or Phosphatis—m 120
Aqua ad—1 OZ.

Mist.

Sig. One dose, three times a day one hour after meals.

Re Dried aluminium hydroxide gel—gr 10

Pulv

Sig. One powder thrice daily one hour after meals.

Re Magnesium trisilicate—gr 20 to 30
OR
Magnesium hydroxide—gr 10 to 20
OR
Magnesium oxide—gr 10 to 20.
(*Heavy*).

Pulv

Sig. One powder thrice daily one hour after meals.

Re Tinc belladona—m 10 to 15
Sodium bromide—gr 10
Aqua chloroform ad 1 OZ

Mist

Sig. One dose, two to to three times a day 15 to 20 minutes before meals.

N B In using the alkalies for a long time, test the reaction of the urine. When the reaction is alkaline, stop it. The dose of tincture belladona should be gradually increased, to the maximum point of tolerence. Hyperacidity is often associated with intestinal parasitism. Treat them.

Actinomycosis

1 External sinuses to be surgically treated.

2. Sulphonamides and penicillin are the specific drugs.

Triple sulphonamides—2 g initially 1 g every four hours, with alkalies and plenty of fluids. To be continued for many weeks. Keep watch on the earliest signs of intoxication, when to stop it.

Procaine penillin G—300,000 units daily intramuscularly Total 6 to 9 millilon units.

3 Potassium iodide—gr 10 in a half-ounce of water with little warm milk, twice daily after meals.

ADDISON'S DISEASE

(Chronic Adrenal Cortical Insufficiency)

Patients suffering from Addison s disease, should at all times be under hormonal replacement therapy like cretenism, my xedema etc.

Treatment is divided into two phases—[i] Treatment of acute adrenal insufficiency (Adrenal Crsis) [ii] Treatment in the intercritical period

I Adrenal Crisis. (Acute Adrenal Insufficiency)

1 Treat the underlying cause to avoid acute adrenal insufficiency

2. Rest in bed during crisis. (The exciting causes of this condition are—trauma, stress and infection. Disturbances of blood chemistry—of sodium, chloride, water sugar potassium and deficiency of adrenal cortical hormone) Principle of treatment is the quick replacement of the hormone and sugar water and electrolytes of the blood.

3 Patients suffering from Addison s disease are abnormally sensitive to various drugs in common use such as—barbiturates, bromides, opiates and other analgesics, insulin and thyroid. (Richardson).

4 The patient should be treated with utmost care Intra venous infusion of 5 per cent glucose in normal saline—2 to 4 liters in twentyfour hours depending upon the amount of de hydration and loss of sodium, chloride, hypoglycemia and increased concentration of potassium in the blood and the patient s response to treatment.

5 Hydrocortisone—100 mg. every 4 to 8 hours with saline glucose infusion in the first 24 hours. The dose is diminished in the next 24 to 48 hours. If necessary deoxycorticosterone —2 to 10 mg in oil be injected intramuscularly Generally 2 to 4 mg. is sufficient The blood pressure should be maintained at 100 mm. of Hg

6. If the blood pressure is low such as 80 mm of Hg, neo-synephrine 0·3 to 0·5 mg. subcutaneously or nor-epinephrine 2 to 4 mg per hour with the saline infusion to maintain blood pressure.

7 Watch for pulmonary or peripheral edema.

8 Infection precipitates such an attack—antibiotics are indicated

9 Aldosterone is advocated. It is a salt retainer and helps potassium diuresis.

10, As soon as the patient can take orally—cortisone acetate —12 5 to 50 mg orally in divided doses at 8 a.m. and 8 p.m.

II Treatment of the intercritical period.

1 Replacement of the hormone—cortisone acetate—12.5 mg., in two divided doses, gradually increase upto 50 mg. a day The effect is always to be judged by the blood chemistry electrolytes concentration, sugar content and blood pressure reading and weight gain. The dose of the hormone individualised by clinical and biochemical studies and by giving *12·5 mg. thrice* daily watch the result, then either increase or decrease the dose. The dose is increased, according to the advice of the attending physician, in presence of

infection, stress or strain etc. The total daily dose may be even 100 mg

2. Diet—Well balanced, high protein, low fat, high carbohydrate, low potassium. Fruit juice is rich in potassium, and it is to be avoided. Extra sodium chloride should be given in capsules in dose of 1 to 5 g. daily

ADENOIDS. (Treatment in an early case or after surgical removal in children)

1 Hygienic measures are to be adopted.—such as sun light, change of air in a bracing climate, outdoor exercise, mouth breathing is to be stopped.

2. Diet—high protein and well balanced.

3. Multi-vitamins to be given in drops or capsules or in emulsion. Cod liver oil in malt—one to four tea spoonfuls two times a day after meals.

ALCOHOLISM,.

Acute Alcoholic Intoxication. (Block)

(In most cases of prolonged drinking, dehydration is present)

1 If the patient is seen vomiting and dehydration is present, fluid balance should be re-established quickly 5 per cent glucose in normal saline by intravenous infusion—1 to 2 liters in 12 to 24 hours.

2. Vitamin B Complex—one ampoule and 500 mg. of ascorbic acid should be given along with saline-glucose infusion. Next, these vitamins should be given parenterally every three days.

3 To help deposition of the glycogen in the liver and metabolism of the alcohol, insulin is given along with glucose infusion. (1 unit of insulin will utilise 4 g of glucose) 20 to 45 units of insulin a day divided into four doses. Blood sugar should be done before insulin injection to avoid *hypoglycemic* reaction.

4. To counteract—depression of the central nervous system—The following may be used—Caffiene sodi benzoate—gr. 5 to 7½ intramuscularly Dextroamphetamine—5 to 10 mg. thrice daily when the patient can take orally

5 To treat hyperexcitability such as excitement, restlessness, vomiting etc., tranquillising drugs such as chlorpromazine, meprobamate, and reserpine are advocated Chlorpromazine—25 to 100 mg, every 4 hours. Meprobamate (Miltown)—500 mg. once or twice daily Reserpine—0·25 to 1·0 mg every 4 hours. Slow in action., Promazine hydrochloride—(Sparine)—25 to 200 mg—three or four times a day These drugs can be administered orally intramuscularly or intravenously according to the urgency of the case and the discretion of the physician. Always watch for the side effect of these drugs.

6. Adrenal Cortex extract—(Liq)—10 to 30 c.c. in a liter of normal saline intravenously is advocated over several hours to fully metabolise alcohol present in the system.

7 Sleeplessness—Paraldehyde orally 5 to 25 c.c. in syrup aurantii. Intramuscularly 10 to 15 c.c. in the gluteal region. If the injection be made superficially necrosis of the superficial tissue will follow Neutral solution of paraldehyde should be injected from a reliable manufacturer One should remember that Chlorpromazine potentiates the action of a hypnotic. If the hypnotic is used with chlorpromazine, the dose should be very small.

8. Tremors—Muscle relaxant-mephenesin—aqueous solution—25 to 50 c.c. injected slowly if necessary intravenously will produce dramatic effect on the tremors.

9 In delirium tremens—cortisone or ACTH—25 mg. every six hours, until six doses are administered.

10. When the patient is conscious—and take orally—the diet recommended is—high protein, high carbohydrate, low fat and highly vitaminised.

Alcoholic Coma —(Eliminate other causes of coma Mere smell of alcohol from the mouth does not mean alcoholic coma. The author has seen a case of morphine poisoning with smell of alcohol in the mouth, in the military hospital. Examination of the gastric contents and the viscera proved the opium poisoning.)

1 Blood should be examined for the alcoholic content which varies from 0·2 to 0·25 per cent.

2. Lavage of the stomach with Ryle s tube.

3 In presence of dehydration—infusion of 5 per cent glucose—saline and insulin as before

4 To overcome comatose state—caffeine sodi benzoas—gr 5 to 7½ intramuscularly or intravenously as thought necessary

5 When pressure on the brain due to edema is suspected—glucose solution 50 per cent—25 to 50 c.c. intravenously is indicated.

6. Epileptic fits are seen after the coma is over—dilantin sodium—gr 1½ (0 1 g) thrice daily till it is controlled.

7 When the patient is alright, antabuse therapy is advocated.

(Consult—Author's Clinical Therapeutics).

CHRONIC ALCOHOLISM

1 Acute gastritis and enteritis—First thing in the morning—the stomach to be washed with 0·5 per cent sodium bicarbonate solution with a Ryle's tube. Chlorpromazine and promazine hydrochloride and psychotherapy

2. Hallucinations—Tranquillizing drugs. Corticotropin—25 mg., intramuscularly or intravenously every four hours for six doses.

3. To increase the appetite—the following is advocated.

Re, Acid hydrochloric dil — m 30.
Acid phosphoric dil — m 10

Liq strychnine hydrochloride m 5
Aqua menth pip conc — m 5
Aqua ad — 1 oz.

Mist.

Sig. One dose well diluted with water thrice daily after meals.

4 Neuritis—Vitamin B_1 5 mg. orally thrice daily 25 mg parenterally every day In advanced cases—Vitamin B_{12}—100 to 1000 mcg. subcutaneously daily or alternate days.

ALKALOSIS (Common in cyclic vomiting in children and in the alkali treatment of peptic ulcer).

1 Stop administration of alkalies

2. Re, Acid sodium phosphate — gr 10 to 30.
Aqua ad — 1 oz.

Mist.

Sig. One dose well diluted with water every four to six hours.

3 In urgent cases—Intravenous infusion of—1 per cent sodium chloride solution or ammonium chloride—0·8 per cent solution in distilled water. One to two pints slowly

AMEBIASIS. (Amebiasis includes intestinal amebiasis, amebic dysentery and diarrhea, and ameboma)

1 In acute stage of the disease, rest in bed.

2. Diet—Liquid—milk preparations sour milk preferred, non-residue diet—nutritious. Avoid fruits and vegitable for a week.

3 Emetine hydrochloride—gr ½ to 1 Daily by subcutaneous or intramuscular injection In an ambulant patient, the dose of emetine should not exceed gr ½ 3 to 6 grains from a course. Examine the pulse, auscultate the heart, take blood pressure readings and test the reflexes before injecting emetine every day

4 Re, Olei Recini m 60.
Mucilage Acacia q s.
Tinc belladona .. m 5
Tinc cannabis Indica m 1
Tinc Opii Camphorata m 10
(In the old only)
Aqua ad 1 oz.

Mist.

Sig. One dose three times a day

5 In presence of diarrhoea—Bismuth carbonate—gr 240 before emetine injection.

(Entameba histolytica in the vegetative form is present in the bowel in the acute stage and it is always present in the tissues in the matastatic infections. Cystic stage is present only in the lumen of the bowel, when the living sorroundings of the Ent histolytica is unfavourable)

6. Any one of the following should be used for ten days.

Emetine bismuth iodide—gr 1 in a capsule at bed time, at least four hours after meals. Preceded by phenobarbital—gr ½

Kurchi bismuth iodide— gr 10 with sodium bicarbonate or citrate—gr 10 twice daily after meals.

Chiniofon—gr 4 twice daily after meals.

Vioform—gr 4, twice daily after meals.

Diiodohydroxyquinolin—gr 3 thrice daily after meals for three weeks.

7 Formerly this was followed by a retention enema—chiniofon 2.5 per cent solution 200 c.c. for ten days while retiring to bed

8 This is followed by arsenical therapy in absence of hepatic enlargement, Acetarsol—gr 4
Carbarsone — gr 4
Glycobiarsol (Milbis) — 0·5 Gm.

Sig. Any one of them to be given *after meals*, twice daily for seven days or once a day for two weeks.

Arsenic content of acetarsol and carbarsone is about 23 percent Arsenic content of glycobiarsol is about 15 per cent.

Always watch for the earliest signs of arsenical intolerance.

Fumagillin (Fumadil)—10 to 20 mg., thrice daily for seven days is advocated It may produce gastrointestinal disturbance and allergic dermatitis. (*Jung and Faust*)

9 When the cysts are present emetine bismuth iodide group of drugs are advocated.

Antibiotics—Oxytetracycline, chlortetracycline and erythromycin are efficacious. Erythromycin is preferable, since it alters the intestinal flora less than the tetracyclines and removes non-pathogenic ameba as well as Ent. histolytica (Jung and Faust) It is administered every eight hours for five to eight days. Usually dysentery will cease in 48 hours, although this does not mean that the infection has been eradicated The tetracyclines are given in daily dose of 2 Gm. divided into four doses for about seven to ten days. Reinfection and relapses are seen after antibiotics.

11 Ameboma— Emetine hydrochlor—gr 1 by subcutaneous injection daily for ten days.

12. Metatastic amebiasis (such as amebic hepatitis, amebic abscess, *of the liver lungs and the cerebrum subdiaphragmatic* abscess, hepatic abscess bursting into the lungs etc.)

Prophylactic method—Jung and Faust advocate chloroquine phosphate to be taken immediately after the dysentery is controlled. They use the following dose—0.5 Gm., thrice daily for two days next 0.25 g twice daily for three weeks.

Curative—Two drugs are advocated—emetine injection and *chloroquine orally* Chloroquine phosphate—for three weeks as before. Or emetine hydrochloride injection with proper precaution for ten to twelve days. Generally six days form

a course. With an interval of one to three days second course of six injections are given.

Amebiasis, in children

In intestinal phase of amebiasis, emetine hydrochloride injection is advocated. Dose of emetine for younger children—gr 1/6 daily for six days. For children aged 5 to 10 years—gr 1/3 daily

The dose of other drugs is proportionate to the age.

ANEMIA, IRON DEFICIENCY (Microcytic Hypochromic)

Iron deficiency constitutes 85 percent of anemia in the tropics. (Henry & Khondi)

1 More rest should be enjoyed.

2. Treat the underlying cause so that it does not progress to severe grade of anemia when blood transfusion will be necessary Treatment should be early started.

3 Diet should contain high protein and well balanced diet.

4 Hematinics—Ferrous salts prefered.

Re, Ferrous sulphate		gr 5 to 7½
Acid sulphuric dil		m. 10
Syrup simple		m. 60
Aqua	ad	1 oz.

Mist.

Sig. One dose three times a day after meals. Better to be taken with orange or lime juice or vitamin C.

In presence of constipation, magnisium sulphate—gr 60 may be added to the mixture from time to time.

Ferrous sulphate tablets may be given after meals. 3 grs. each tablet—two to three tablets, three times a day

Re, Ferrous sulphate	gr 2½
(Exic)	
Aloin	gr 1/8

Ext. Belladona Sicc gr 1/8.
Ext. Gentian Co .. q. s.
Ft Pillula.

Sig. Two to three pills, two to three times a day one hour after meals.

Re, Ferrous gluconate .. 5 to 7½
Pulv

Sig. One powder thrice daily after meals with orange or lime juice or vitamin C.

In treatment of iron deficiency anemia, iron is the most essential in treatment. Neither vitamin combinations nor trace elements are necessary. As Sturgis has aptly pointed out "iron and iron alone is indicated in an iron deficiency anemia, and the addition of liver stomach extract, copper or any other form of adjuvant is of no practictical value" Molybdenum and cobalt may be added to this list. (Gilbert and Schmitz). The administration of oral iron should be continued for about three months after the blood picture is restored to normality with oral iron therapy (Davis).

ANEMIA IN INFANCY AND CHILDHOOD

Iron deficiency Anemia.

Inadequate iron in the diet is classically seen in prolonged breast feeding when the iron content of the mother's milk is insufficient to supply the needs of the growing baby. The anemia of prematurity again, is closely related to inadequate stores of iron in the infant. (Cathie.) Ferrous gluconate and ferrous succinate are better tolerated. Ferrous gluconate —3 1/3 gr (200mg) three times a day with orange juice after meals at birth. Gradually the dose can be increased to 500 mg when the child is one year old. This dose is little higher than ferrous sulphate or ferri et ammon citras. For patients who cannot tolerate oral iron preparations, Intramuscular iron preparation such as 'Imferon (dextran iron

preparation) is advocated. Each ampoule—50 mg of iron in 1 ml To babies under 8 lb (3.5 kg) not more than 0.5 ml should be given in one injection from 8 to 2o lb (3 5 to 9 kg) not more than 1 ml and in bigger children not more than 2 ml. (Cathie.) With this casein lysate or protein hydrolysate or a high protein diet is a good adjunct. It helps utilization of iron.

Iron Deficiency anemia of pregnancy

Iron—deficiency anemia may be intrinsic anemia of pregenancy or it may be pre-existing iron deficiency anemia associated with pregnancy

1 Treat the underlying cause if present such as diarrhoea, chronic dysentery etc.

2. Ferrous salts are indicated such as—ferrous sulphate, ferrous gluconate or ferrous succinate.

Ferrous sulphate—gr 3 each tablet, five to six such tablets a day divided into three doses, to be taken after meals with ascorbic acid. It is the cheapest preparation. Better tolerated and with least digestive disturbances are ferrous gluconate—100 mg each tablet, three times a day after meals with ascorbic acid. Costliest is ferrous succinate in the same dose, it is also as good as the gluconate. Oral iron treatment is of choice when the case is seen early and the patient can tolerate it. In cases the patient cannot tolerate the oral iron preparations, iron should be given by intravenous route particularly in the last trimester of pregnancy Saccharated oxide of iron—100 mg in 5 ml. Initial dose is 1 ml. Next dose 2.5 ml and next 5 ml. It is diluted with 5 to 10 per cent glucose solution and to be injected very slowly After the vein-puncture as blood rush in in the syringe the piston should be rotated so that the iron solution mixes with the blood before it is injected

Where intravenous iron therapy is not possible nor oral iron

therapy is efficacious, intramuscular injection of 'imferon' can be given, three times a week.

3 Diet—well balnced and high Vitaminised diet. Often hypo-proteinemia is associated with iron deficiency Protein hydrolysate should supplement the diet. The author has used Hydroprotein (B. I) oral, one ounce three times a day

ANEMIA, MACROCYTIC, OF PREGNANCY

1 Proteolysed liver extract (Prolex. B. I)—2 to 4 ml intramuscularly every day or alternate days for twelve doses.

Vitamin B complex tablets or yeast tablets, two to three times a day after meals.

2. As this condition is often associated with hypo-proteinemia, protein hydrolysate-orally and intravenously in the form of hydroprotein (B.I.) have been found efficacious in the author's hands. (Guha.)

3 Blood transfusion—Some cases come in such grave condition that initially transfusion of concentrated red blood cells becomes a necessity

4 Diet—High caloric, high vitaminised and well balanced is advocated

The principle of treatment of anemia in pregnancy should be such that the patient must have 12.0 g of hemoglobin before labour. And she can easily pass through labour without being anemic.

ANEMIA, MEGALOBLASTIC. OF SPRUE SYNDROME AND OF PREGNANCY

(Diagnosis is essential by blood and bone-marrow examinations.)

Folic acid—5 mg each tablet, three to four times a day

Diet—An easily assimilable diet with high protein and well vitaminised is a good adjunct. If necessary vitamins be used

parenterally and oral and intravenous use of protein hydrolysate.

ANEURYSM (SYPHILITIC.)

1 Re, Liq hydrarg perchlor—m 60.
Potassium iodide —gr 10 to 60
Spt chloroform —m 5
Aqua chloroform ad—1 OZ.
Mist.

Sig. One dose, thrice daily after meals, followed by a cup of warm milk.

To be continued for at least four weeks.

2 To be followed by a course of bismuth injections.

3 Penicillin—To be followed by repository penicillin G—injection intramuscularly 600 000 units every day for ten to twelve days with proper precautions.

ANGINA, AGRANULOCYTIC

(It is characterized by profound leucopenia associated with severe malaise and prostration and with necrotic lesions of the mouth and pharynx and possibly of other surfaces as well)
Prophylaxis —Prophylaxis consists of frequent hematological and bone marrow study when drugs such as amidopyrine dinitrophenol, sul-phonamide, gold compounds organic arsenicals, thiouracil or its derivatives phenylbutazone, trimethadione, chloramphenicol or erythromycin are used. To stop the drug at at the earliest sign of toxicity Curative.

1 Stop the drug, which is thought to be the cause.

2 Antibiotics-are to be started at once. Penicillin and streptomycin are recommended Penicillin-500,000 units, intra muscularly every six hours Streptomycin-1 g, intramuscularly twice daily Allergic reactions of penicillin are reported very frequently It is wise to test its sensitivity before injection of penicillin. 0.1.c.c. of the penicillin preparation is injected

follwing are some of the xanthines derivatives used and their dosage.

Aminophyllin (Theophylline ethylenediamine) -0.1 to 0.2 g. very six to eight hours. In presence of nocturnal attack, aminophylline suppository containing 7½ grs is put in the rectum. Theocalcin (Theobromine-calcium salicylate)- 0.5 to 1.0 g. every six hours. Xanthines are used after nitrites.

4 Xanthines are replaced by coronary dilator such as pentaerythritol tetranitrate. Dose 10 to 20 mg. Three to four times daily It acts quickly The duration of action is from four to five hours. The drug is an insoluble agent. It explodes on percussion. So it is mixed with lactose.

5 Prevention of an anginal attack Recent advancement in the use of glyceryl trinitrate is that it is used now not only in the treatment of the acute attack of angina but also in its prevention. Any pain provoking stimulus that cannot be avoided, is aborted by use of the drug prophylactically When activities known to precipitate an anginal attack are undertaken-cIotus, walking uphill, walking after meal to board the bus, walking early in the morning, stepping out into the cold or walking against the wind-the patient is urged to take glyceryl trinitrate *before hand (Master) Stroud and Parkinson also* advocate this type of use of the drug. They say that a patient can use it as much as twenty times a day if he needs it. A patient who uses it, should be assured that it is not a habit forming drug. It does not loose is efficacy on continued use

6. Try to avoid the exciting causes where possible. Cut down weight and treat the underlying, cause where-ever possible.

7 When anginal pain is very severe-Injection subcutaneously of morphine -gr ¼ or pethidine hydrochloride 50 to 100 mg. are indicated

8 Oxygen inhalation is an adjunct to treatment.

ANUS, FISSURE OF (RECENT) ANAL FISSURE.

1 To keep the bowel open and the stool be made soft.

Preparation of liquid paraffin and magnesium hydroxide—½ to 1 ounce in the evening. Or Liquid paraffin—one table spoonful, twice daily before meals N B Liquid paraffin is not to be prescribed for ladies who may happen to go to parties and dance. In the susceptible individual liquid paraffin may leak out from the anal canal.

2. Local application, when much pain is present.

Re. Hydrarg Subchloride—gr 4
Cocaine Hydrochloride—gr 5 to 10
Vasiline Alba ad—1 OZ.
Misce.
To be served in a collapsable tube.

Label on the tube.—Poison and for external Application.

The prescribing physcian—should sign his name by the dose of cocaine to avoid the law and the mistake.

Sig. To be introduced in the bowel, with a patient s clean finger before and after an action of the bowel and while retiring to sleep

Re, Aluminium subacetate—gr 2½
Aqua ad—1 OZ.
Lotio

Sig. A cold pack of gauze may be applied locally after soaking in this solution.

ANUS, PRURITUS OF (PRURITUS ANI).

1 Treat the underlying cause when present.

2. Hydrocortisone has the unique advantage of exerting a local anti-inflammatory effect when applied directly at the site of inflammation. (Kindell Emerson.)

Re, Hydrocortisone (1 to 2%)—gr 5 to 10.
Vaseline alba or
Greaseless cream ad—1 OZ.
Misce.
To be served in a collapsable tube.

Sig. To be applied locally after cleaning, two to three times a day To be continued for ten days. Better results are often obtained if oral cortisone therapy is given. (Ed J Am. Med. Ass.)

3 Older local application.

Re, Silver nitrate —gr 10
Spt Aetheris Nitrosi ad—1 OZ.
Misce.

To be kept in the dark away from light.

Sig. To be applied locally at the site with great care, in a cotton swab Two to three times a week, when retiring at night.

4 To ensure sleep—a powder—containing phenobarbitone—gr 1 to 1½ Aspirin—gr 5 Sig. To be taken at bed time.

5 Hygiene—of the perineum should be attented to.

6. Local application of 0.5% menthol or 0.5% phenol in a lotion or greaseless cream are of no use as they cannot penetrate an unbroken skin. Antihistamines are of no value when applied locally (Ed. J Am. Med. ASS)

APOPLEXY (cerebral hemorrhage)

Immediately after the incident.

Absolute rest in bed. With the head end of the bed a little raised. Apply ice cap to the head and hot water bags to the feet. In presence of stertorous breathing, turn over to a side. Careful nursing is essential.

In presence of high blood pressure—venesection and lumber puncture—when thought necessary

Re, Magnesi Sulphas—2 to 4 OZs.
Aqua (Warm) ad 8 OZ.
Mft. Enemata.

Sig. To be introduced per rectum by a rubber catheter If it comes out, it may be repeated in an hour

50 per cent sucrose intravenously and slowly Veriloid 50 mg (2/5 gr) in 1 c. c. or Hexamethonium bromide (Vagolysin)—50 mg in 1. c. c. Intramuscularly

If the patient be conscious and can take orally—

Re, Tinc Veratrum Viride—m 5 to 15
Aqua ad —2 to 4 drs.
Mist.

Sig. To be given every two hours, three to four doses can be given. Blood-pressure should be watched. It should be kept under 200 mm of Hg.

APPENDICITIS. (Treatment is surgical)

(When surgical treatment is not adopted in first thirty-six hours).

Injections of penicillin, sulphonamides, gas-gangrene serum are advocated. Dehydration is to be tackled with. Emetine hydrochlride injection with history of amebiasis.

To avoid vomiting

Re, Hydrargyri Subchloridum—gr 1/32 to 1/40.
Sodii biscarbonas —gr 2.
Menthol —gr 1/8.
Pulv

Sig. One powder every two to three hours.

To allay pain.

Re, Ext Belladonnae Siccum—gr 1/8.
Ext Nucis Vomicae Siccum—gr 1/8
Ext Hyocyami Siccum —gr ¼
Ext Gentian Co —q s.
Fiat. Pillula.

Sig. One pill every four hours.

Amebiasis of the large intestine being common injection of emetine hydrochloride is advocated in non-operable cases.

N B Never administer any purgative, when there is any suspicion for appendicitis.

ARTERIOSCLEROSIS. *(Atherosclerosis)*

1 General treatment is useful. Overweight should be brought down by restriction in calories of the diet. The diet should be free from lipoids such as cholestrol etc as far as possible. Cholestrol content is often brought under control by administering protein hydrolysate In presence of hypothyroidism, thyroid extract is efficacious. Regular habits and exercise are good. Alcohol and smoking should be avoided. Salt should be restricted in presence of hypertension

2. Lugol's Iodine—5 to 10 minims with an ounce of water after meals, two to three times a day

ARTHRITIS, (In the elderly patient) OSTEOARTHRITIS.

It is a degenerative joint disease.

1 The physician should assure the patient that he is not suffering from rheumatoid arthritis and he will not be an invalid.

2. The medical treatment is palliative.

3 Principles of tretment—rest for the affected joints. physical therapy corrective exercises and aspirin are benefical. Obesity should be corrected and a sustained and earnest effort at weight reduction should be made. (Bunim).

4 Repeated intra-articular injections of *tertiary* butylacetate or the acetate of hydrocortisone is often helpful in tiding the patient over a troublesome period.

5 Disability from the disease is less when compared with rheumatiod arthritis. There generally is little justification of the use of drugs that are potentially hazardous such as steroids (systemic administration), corticotropin phenylbutazone or for drugs that are of doubtful value such as colchicine cincophen, iodides, snake venom, ver extracts, vaccines and antibiotics.

6. Hormonal therapy—such as thyroid estrogens, androgens should be administered only when there is evidence of a specific deficiency

7 Corrective surgical measures are adopted in selected cases of serious disability

ARTHRITIS RHEUMATOID

Rheumatoid arthritis is a systemic disease and the patients are ill. It is a progressive inflammatory disease of nearly all the organs of the body although its effects ultimately tend to become concentrated largely in the joints and muscles. It affects persons of all ages, including children The majority of its victims are females, the reason is not known The first joints to be affected are generally the smaller peripheral joints, toes and fingers-and later it extends to the larger joints. If the disease is unchecked it can lead to great crippling and pain (Copeman) General Treatment.-consist of rest. maintenance of nutrition and general hygiene, analgesics such as-salicylates-sodium salicylate-0 6 g (10 grs) four or more times a day combined with potentiating drug para-amino-benzoic acid (Glomset). phenylbutazone 200 mg once or twice daily Not to increase above 600 mg daily in divided doses. To be continued for five to six days a week Take particular care for its toxicity Not to be given to elderly patients and people with cardiac or hepatic or renal damage. Intramuscular injection 1 g in a 20 per cent solution. Codeine phosphate-gr 1/4 to 1 Demerol-40 to 100 mg orally or parenterally Prevention or correction of deformities, physical and occupational therapy psychotherapy and rehabilitation. These measures are of proved value.

Gold therapy-Generally it is given by intramuscular injection. Two products are in common use-aurothiomalate of sodium (Myochrysine) and aurthioglucose (Solganal-B) Initial dose-

10 mg once a week. If the urine is normal and liver norm: gradually the dose is increased by 10 mg. Six to ten injection The maximum dose of 50 mg should not be exceed. It is particularly useful in involvement of the peripheral joint Disadvantages of gold treatment. Gold is a toxic drug. does not benefit a large percentage of patients. Benefical eff cts of gold are temporary and relapses are common. Tox reactions of gold-on- (i) skin-dermatitis, simple or exfoliati (ii) hematopoietic aganulocytosis (iii) renal-albuminuria (iv) mucous memebrane-stomatitis, colitis etc, (v) liver-jaundic Antitode to gold intoxication 2 3- dimercaptopropanol (BAL Transfusion of whole blood is useful in selected cases of seve anemia. Iron deficiency anemia in Rheumatiod arthritis, successfully treated with intravenous therapy with saccharate iron oxide. (Ed. B M.J) Steroid therapy in rheumatoid ar thritis.—Cortisone in rheumatoid arthritus. The gener opinion is that any case of rheumatoid arthritis is suitable fo steroid therapy unless the classical methods of treatment b rest, splintage and analgesic therapy and often intramuscula gold injections have failed.

Regulation of dosage in prolonged administration- (Ward et a Proper regulation of the dosage is most important.

In moderate or moderately severe cases-daily dose, 50 to 75 mg divided into four doses. In mild cases or those patients who are susceptible to the effects of cortisone 30 to 50 mg in fou divided doses.

In severe cases or only occasionally 100 mg or more daily in four divided dosages. In fine the dose advocated 5 to 25 mg every six hours with proper precautions. Withdrawal of corti-sone should be gradual and slow process. Regulation of the dosage will be guided by the laboratory findings. Certain conditions may be affected adversely by the administration of cortisone—(a) active tuberculosis and other infections; (b)

psychoses; (c) cardiovascular and renal diseases, (d) diabetes mellitus; (e) peptic ulcer and (f) convulsive disorders.

Side effects are to be watched and avoided carefully such as rounding of the face, tendency to overweight and development of peptic ulcer

Gradual reduction of the dose is an important factor in achieving a satisfactory maintenance level The maintenance dose is also—5 to 12.5 mg. Children and women after menopause are more susceptible to cortisone. The maintenance dose is generally daily is within 25 mg in rare cases it may be upto 75 mg. Extra doses are necessary in presence of articular flare-up or pre or post operative conditions. How long it should be continued is not yet known but it has been continued upto two years. The use of cortisone should not be discontinued during a period of unusual stress.

Common mistakes in the use of cortisone.—(Ward et al)

1 Improper selection of patients (2) improper regulation of dose (3) inadequate supervision of patients (4) negelect of supplementary measures of treatment (5) discontinuation of administration of cortisone at the time of surgery of other increased stress.

Measures which are of doubtful value or useless—vaccine therapy foreign protein therapy vitamins in massive doses, endocrine preparations, dietary fads, sulfur bee venom therapy sulphonamide derivatives, penicillin and anti-reticulo-toxic serum etc,

In a small group of cases with corticotrophin (ACTH) treatment Copeman has found greater number of cases have gone into complete remission than with cortisone.

Chloroquine phospha—0·25 g each tablet, two to three times a day has been found the markedly useful in prolonged use from 1½ to 2 years.

Ascites.

(a) Due to cirrhosis of the liver

(i) Diet—High protein, easily digestable, well balanced and well vitaminised diet. Protein hydrolysate, preferably casein lysate, orally and parenterally Restriction of sodium in the diet. In advanced cases avoid high protein diet, methionine and ammonium salts.

(2) Diuretic—(a) Orally—chlorothiazide—Daily dose—1 to 2 g. 0.5 g each tablet. To be given at 8.30 A. M. and 4.30 P M. When given for a long time potassium chloride—1 g. three times a day with sweetened water to be given. (Bayliss.)

(b)—Parenterally—Mersalyl—1 to 2 ml by intramuscularly 1 ml well diluted with water to be injected intramuscularly in the morning in the gluteal region. After abdominal paracentasis, 2 ml of mersalyl may be injected intraperitoneally aseptically is very efficacious.

(II) Due to chronic peritonitis

a. Treat the underlying cause.

b. Local application

Re, Ichthammol—1 OZ.
Glycerin —1 OZ.

Misce.

Sig. One drachm to be rubbed over the abdomen, where there is pain.

Re, Cod liver oil—½ OZ.
Iodex —½ OZ.

Misce

Sig. To be rubbed over the abdomen one drachm at a time

ASTHMA BRONCHIAL.

During an attack.

Bronchial anti-spasmodics that dry up bronchial secretion are—atropine, belladona stramonium, lobelia, grindalia.

euphorbia. Bronchial antispasmodics that do not dry up bronchial secretion—adrenaline ephedrine, ether nitrites, aminophyllin

Re, Adrenaline tartrate solution—(1 1000) —1/5 c. c. subcutaneously every fifteen minutes for two to three doses till relief.

Re, Adrenaline tartrate solution—(1 1000)—m 3
Ephedrine hydrochloride —gr 1/4

By subcutaneous injection. Ephedrine inhibits the action of amino oxidase and prolonges the action of adrenaline.

Re, Theophyllina cum Aethylenediamina—gr 1½ or 3/4
(Aminophyllin)
Ephedrina Hydrochloridum —gr 1/8.
Phenobarbitonum —gr 1/8
Calcii Lactas —gr 5

Pulv

Sig. One powder three to four times a day It can be used in the interval. Ephedrine is contra-indicated in presence of hypertension enlarged prostate and digitalis therapy

Re, Aether Solvens—m 60
Oleum Olivæ —1 FL OZ.

Misce

Sig. To be administered per rectum with a catheter Usual hospital mixture.

Re, Tinc Stramonii—m 5 or, Tinc Lobelia Aetheris—m 5
Potassii Iodidum—gr 2½
Aqua ad—1 OZ.

Mist.

Sig. One dose three times a day with half a cup of warm water

for tenacious mucus in expectoration.

Re, Potassi Iodidum—gr 2½ to 5
Potassi Bicarbonas—gr 10

Aqua Camphora ad—1 OZ.

Mist.

Sig. One dose thrice daily with plenty of warm water or milk

When the attack is severe—aminophyllin—gr 33/4 in 10 to 20 c. c. of normal saline or 50 per cent glucose solution slowly and intravenously Intramuscular injection is painful.

Asthma Bronchial, in Infatns.

In presence of allergy Syp Benadryl—m 15—20 in a tea spoonful of water every 3 hours. For three or four doses.

During an attack

Re, Aether Solvens—m 10—15

Oleum olivæ —m 60.

Mist.

Sig. To be given per Rectum.

Aminophyllin—gr 2 to 5 in 1/2 ounce of normal Saline per rectum.

STATUS ASTHMATICUS

Principles of treatment—(Hampton)

1 (i) Relief of bronchospasm. (ii) Relief of edema of the bronchial mucosa. (iii) Removal of tenacious sputum and bronchial mucus. (iv) Maintenance of blood oxygen saturation and reduction of carbondioxide retention. (v) relief of anxiety by sedation. (vi) Control of the infection of the respiratory tract, when present by antibiotics. (vii) Specific treatment of heart failure or cor pulmonale, when present Removal of bronchial mucus appears to be the most important therapeutic measure of all as a life saving measure.

2 An ideal "Intravenous cocktail" is 1 Grm of aminophyllin 1 Grm of sodium iodide (provided the patient is insensitive to iodides) and 10 to 20 units of ACTH in 100 c. c. of 5 percent glucose solution in water given over eight or more hours.

(a) prednisone and prednisolone.
(b) Elimination of bronchial mucus—potassium iodide—orally daily 3 to 4 Grms, and 3 to 4 Grms of sodium iodide intravenously
Sedation is best done with chloral hydrate and paraldehyde.
The cause of death in asthma is anoxemia as a result of tenacious sputum and bronchial mucous plugs.

AURICULAR FIBRILLATION —(Seen in 6 to 10 per cent cases of cardiac failure)

Auricular fibrillation associated with congestive cardiac failure —acute or chronic. Method of rapid digitali-zation.

Re, Tinc Digitalis—m 60
(B P)
Auqa ad 1 OZ.
Mist.
Sig, To be taken immediately

B. N Tincture digitalis should be taken from a fresh stock. It should be standardised preparation. To be measured with a minim glass immediately before taking and freshly mixed with water This is to be followed by 30 minims of the tincture, every four hours. Regulated by the clinical examination of the patient and his heart by auscultation, heart and pulse rate etc. Gradually the dose is lowered and maintenance dose is found and continued.

Digoxinum—gr 1/120 in alcoholic solution diluted with 10 mils of normal saline and injected slowly and intravenously Followed by oral administration of Tabellae Digoxini—gr 1/240, four to six times a day

Re, Digitoxin—1/600 in 2 mils of normal saline, intravenously and slowly Followed by oral tablet of gr 1/600 every three to four hours. Total dose in twenty four hours 1.2 mg. (1 mg = 1/60 gr)

BALDNESS. (Non-specific cause)

Re, Pilocarpinae Nitras—gr 8.
Spt Camphorae —2 Fl. drm.
Tinc Cantharidinum—2 Fl. drm.
Oleum Santali —m 8
Oleum Gaultheriae —m 8
Glycerinum —m 80.
Alcohol (80 percent)—ad 4 OZ.

Misce. Lotio

To be lebelled as "Poison and for "External" use

Sig. To rub into the roots of hairs night and morning after shampoo

BED SORES

Careful nursing, frequent change of posture attention to the bony points, maintaining dryness of the skin w th local application of alcohol & boric acid, use of air cushions, and good nourishing diet and proper treatment of the cause, prevent the onset of bed sore

Stage of threatened bed—sore. (when erythema of the skin disappears an pressure)

Re Argenti Nitras—gr 20 to 25
Aqua Destillata—ad 1 Oz.
(Chloride free).

Misce To apply locally three times a day

Stage of ulceration.

Wash with sterile warm normal saline solution. The ulcer should be surgically clean. Apply Unguentum Penicillini in absorbant cotton

BERI BERI (Due to Vitamin B_1 deficiency).

Re Tab Aneurinae Hydrochloridi—gr 1/12. (5 mg) each.
Sig. Two to four times a day

In presence of severe gastro-inthetinal disturbance or cardiac failure—Injectio Aneurinae Hydrochloridi—gr 1/3 to 3/4 (20 to 50 mg) in normal saline should be injected intravenously twice a day

Adjunct to treatment—well balanced well vitaminised, high protein, easily digestable diet. Beware, more than one vitamin deficiency may be present.

BERI-BERI, EPIDEMIC DROPSY FORM

Edema of feet.

Re, Calcii Chloridum —gr 5
Acid Hydrochloricum Dil—m 5.
Glycerinum —m 20
Aqua ad—½ OZ.

Mist.

Sig. One dose, thrice daily after meals.

Constipation

Re, Oleum Recini —m 60
Mucilage Acacia —q s.
Tinc Belladonæ —m 5
Aqua Anethea Con —m 5
Aqua ad—1 OZ.

Mist.

Sig. One dose thrice daily

Severe pain round the umbilicus.

Re, Ext Belladonæ Sicc—gr 1/8
Opium Pulveratum —gr 1/8
Ext Cannabis Indica —gr 1/8
Ext Hyoscyami Sicc —gr 1/4
Menthol —gr 1/8
Gentianæ Pulvis —q s.

Mft Pillula.

Sig. One pil[1] three to four times a day

N B. Not more than four to be given. To be stopped when pain subsides

Cardiac Embarassment.

Re, *Tinc Digitalis* —m 15

(Standerised, from frshly opened bottle of recent lot.)

Tinc Ephedra Vulgaris —m 30 to 60.

Dextrosum —gr 20.

Aqua Camphoræ ad—1 OZ.

Mist.

Sig. One dose three to four times a day

N B. Digitalis preparation deteriorates in presence of water Not more than four doses should be prepared at time It should better be consumed in twenty four hours.

Acute edema of lungs —Injectio Mophhinæ Sulphatis—gr 1/6 subcutaneously If it is ineffectual, it can be repeated in twenty minutes. Intravenous ouabine, when needed & oxygen inhalation.

Adjunct to treatment.—D et—Good nourishing diet. Avoid mustard oil, infected rice etc. Tonics, hematinics etc.

BLACK WATER FEVER.

Re, Sodii Bicarbonas—gr 10.

Sodii Citras —gr 10

Dextrosum —gr 20.

Aqua ad—1 OZ.

Mist

Sig. One dose every three to four hours.

N B. Test the reaction of the urine. When it is alkaline, stop the mixture.

Absolute rest in bed, good nursing, warmth to the lions are good. *Plenty of drinks, Infusion of Lactate—Ringer's solution* when needed blood transfusion in carefully selected cases in presence of severe anemia atebrine chloroquin in presence of

malarial parasites—M T or B. T Prednisone & Prednisolone have been found effective.

Bladder hemorrhage from (when no cause can be detected)

In absence of high blood pressure.

R, Ext Ergotæ Liq —m 10
Calcii Chloridum —gr 5
Acid Hydrochloricum Dil —m 2.
Aqua Chloroform ad—1 OZ.

Mist

Sig. One dose, three times a day

N B. Absolute rest in bed, plenty of drinks are good adjuncts.

R, Tab Acetomenaphthoni (Vitamin K.)—gr 1/12 (5 mg.)
Sig One tablet three times a day after meals.

R, Tab Acidi Ascorbici—gr 3 (200 mg.)
Sig. One tablet three times a day

BRONCHIECTASIS. (Palliative treatment.)

Aerosol therapy with antibiotics—such as penicillin streptomycin etc according to the specific nature of the bacteriology

N.B. Postural drainage, if necessary bronchoscopic aspiration oxygen inhalation, well balanced well vitaminised, easily digestable nutritious diet are good adjuncts to treatment. When no contraindication is present surgical treatment is advocated in selected cases.

BRONCHITIS, ACUTE.

Early stage.

Early retirement to bed is essential. Warm drinks. Liquid diet. Inhalation of steam laden with Tinc Benzoin co-vapour

Re, In the steaming and boiling water in a kettle add a tea spoonful of Tinc Benzoin co The simplest way is to inhale the steam through a roll of newspaper

Local application of mustard plaster on the throat or sternum. To be kept for five minutes. (N. B. Mustard plaster is to be prepared with cold water)

R, Acidum Acetylsalicylicum—gr 5—10.
Sodii Bicarbonas —gr 5—10,
Pulv

Sig. One powder every two to three hours, Two to three such doses are to be taken,

When cough is much and unproductive.

Re. Tinc Opii Camphorata—m 20 to 30.
Aqua ad ½ OZ
Mist

Sig. One dose every two hours for two to three doses.

When moist rales just appeared.

Re, Potassii Bicarbonas— gr 10
Tinc Ipecacuanhae — m 10
Syp Glucosi Liq — m 30.
Aqua ad 1 OZ.
Mist.

Sig. One dose three or four timer a day

Absolute rest in bed in the airy and warm room; plenty of fluid and a laxative are very useful to prevent complications.

Late stage.

When expectoration is dry and there is asthmatic tendency

Re, Potassii Iodidum— gr 1 to 3.
Potassii Bicarbonas— gr 10.
Spt Aetheris — m 30
Syp Vakasa — m 30.
Or
Syp Tolu — m 30.
Aqua Chloroformi ad ½ OZ.
Mist.

Sig. One dose three times a day with little warm water

When gurgling rales (moist crepetations) are present but not much expectoration

Re. Ammonii Bicarbonas— gr 5
Ext Glycyrrizae Liq — m 30
Aqua ad 1 OZ.
Mist.
Sig. One dose three times a day

Re Tinc Scillae— m 10
Syp Tolu — m 30
Aqua Chloroformi ad ½ OZ.
Mist.
Sig. One dose three timer a day

Bronchits, Acute (in children)

Rest in bed in a dust free but warm room. Sun light is desirable.

Diet—Skimmed milk with orange juice. Small but repeated feeds. Bed rest is enforced as long as there is fever

First stage when cough is dry —Inhalation of steam, laden with Tinc Benzoin Co vapour

Local application to the chest wall—Liniment Camphorae Ammoniate or Liniment Terebinthinae. Twice daily

Mustard-flour poultice is advocated by many Mode of preparation.—One part of mustard and four parts of flour in luke-warm water First put flour in the water and make a dough with the handle of a table spoon and next add mustard Measure the size of the chest. A piece of cloth or tough paper will do Cut out the paper according to fitting of the shoulder Spread the dough on this. It is 1/8 th inch in thickness. Cover the face of the poultice with a piece of cheese cloth.

Next apply

Keep it for 5 to 15 minutes.

For suffocative attacks in children—

Re, Tinc Ipecacunnhae —m 60 in little water
(old name—Vinum Ipecacuanhae)

Sig. To be given at once. To be repeated every 15 minutes until it vomits, (Bruce)

Use of sulphonamides, and antibiotics e.g. penicillin, aureomycin etc are advocated in serious cases to prevent further complications.

In older children.

Pastilli Ammonii Chloridi—(2 grs of ammonium chloride in each)—one to suck, three times a day

Re, Ammonii Chloridum—gr 2.
Ext Glycyrrhizae Liq—m 20
Aqua ad—2 drs.

Mist.

Sig. One dose three times a day

In subacute stage.

Re, *Syp Vasakae—m 20*
Syp Ferri Iodidi—m 20
Aqua ad 2 drs.

Mist.

Sig. One dose three to four times day after little food.

V *B.* It is better to mix the two syrups before taking.

Re. Syp Acidi Hydriodici—m 20.
(U S P)
Aqua ad 2 drs.

Mist.

Sig. One dose three times a day

In the convalescence, cod liver oil with malt—one tea spoonfu at the start, gradually increase to eight tea spoonfuls, one hour after meals. *Avoid exciting causes of bronchitis.*

BRONCHITIS, CHRONIC (including winter cough of the old

Re, Sodii Bicarbonas—gr 10
Sodii Chloridum—gr 3 to 5
Emulsio Chloroform— m 5
Aqua Anethae Conc— m 5
Aqua ad ½ OZ

Mist.

Sig. One dose to be mixed with a hot cup of water and sipped slowly in the morning evening and while retiring to bed.

Re, Ammonii Chloridum— gr 15
Spt Ammon Aromaticus— m 10
Ext Glycyrrhizae Liq— m 15
Aqua ad 1 OZ.

Mist.

Sig. One dose three times a day

When the sputum is very tenacious,

Re, Potassii Iodidum—gr 2½
Ammonii Bicarbonas—gr 2½
Ext Glycyrrhizae Liq— m 15
Aqua Chloroformi ad ½ OZ.

Mist.

Sig. One dose three times a day

In presence of asthma with this, aminophyllin—gr 1½ or ephedrine hydrochloride—gr ½ to ½ may be taken with this mixture.

When expectoration is profuse and offensive as it is often associted with bronchiectasis or pulmonary abscess. Aerosol therapy of antibiotics are advocated.

Re, Tinc Iodine— m 60
Creosotum— m 60.
Phenol Liquefactum— m 60

Spt Chloroformi— m 30
Spt Etheris —m 30.

Misce.

Sig. A piece of cotton to be soaked and placed in Burney-Yeo Oro-Nasal Respirator and inhaled

Orally any one of the following may be given.

Re, Creosotum—m 2 in Capsule, three times a day

Re Creosoti Carbonas— m 2 in an ounce of warm milk. Twice daily

Re, Terpini Hydras—gr 1 to 3
Lactosum —gr 5

Pulv

Sig. One powder thrice daily

Easily digestable nutritious diet containing vitamins A and D
Change of air is good. In severe cases parenteral use of antibiotics is advocated.

Troublesome, non-productive (useless) cough at night.

Re. Syp Codeinae Phosphatis—m 30
Or
Syp Pruni Serotinae — m 30
Aqua ad 2 drm.

Mist.

Sig. One dose every 15 minutes, till there is relief. Not more than four doses are to be used.

Broncho-Pneumonia and Pneumonia.

Re, Tabellae Sulphadiazinae—(0.5 Gm each tablet) 2 grm at the start. 1 grm every four hours, day and night. With plenty of fluids.

N B Fluids—intake and output are charted in the hospital.

Re, Sodii Bicarbonas—gr 10.
Dextrosum —gr 20.
Aqua ad 1 OZ.

Mist.

Sig. One dose thrice daily with water

N B Sulpha drugs should be continued for at least three days after the temperature is normal. Should not be continued for more than ten days.

Sulphadimidine (Syn Sulphamezathine) is also effective, in the same dose as the other But here the dose may be given every six hours.

Sleep-lessness

Re, Chloral Hydras— gr 15
Sodii Bromidum— gr 15
Glucosum — gr 10.
Aqua Chloroformi ad ½ OZ.

Mist.

Sig. To be given at bed time.

In serious cases parenteral use of antibiotics are advocated. Penicillin for gram positive bacteria and streptomycin for gram negative ones such as H. Influenzae B. Friedlander and also for gram positive bacteria insensitive to penicillin. Oral aureomycin and chloromycetin are further helps to fight viral pneumonia.

Careful nursing, small but repeated feeds, protection against dehydration and peripheral vascular failure are imperative.

Pneumonia in Children.

Dose of sulphonamides—1 to 3 yrs—¼ of the adult dose.
—4 to 7 yrs—1/3rd of the adult dose.
—8 to 13 yrs—2/3rds of the adult dose
12 yrs—adult dose.

The drug can be administered with fruit juice, jam or honey When it is not accepted, it may be given in emulsion form

Re. Sulphadiazina— one tablet (0.5g) crushed.
Nicotinamidum—gr 1/8. (7.5 mg).
Mucilage Tragacanth Co—q s.
Aqua (saccharated) ad 2 drs.

Mist.

Sig. One dose every four hours day and night.

In serious cases oral penicillin or aureomycin or chloromycetin in babies. From a study of 63 cases, it is suggested that penicillin and suephonamide remains the most satisfactory treatment of Pneumonia in Childhood, and not terramycin. (Fisher and White-field)

Burns, Thermal.

Principles of management of a case of severe burn.

"Nature healeth wound and not meddling."—Paracelcus.

(i) Primary shock—morphine gr ¼ by subcutaneous injection.

In hysterical person—barbiturates. Morphine and barbiturates—both should not be given to the same patient. In presence of oxygen lack—oxygen inhalation and warmth.

(ii) In secondary shock—Transfusion of plasma is required in all casesi n adults involving 15 per cent of the body surface and in children involving 5 to 10 per cent of the body surface. Dose—100 c. c. for every 100 000 R. B. C. above 5 millions per cmm. It should be given early in sufficient quantities and for a great length of time (Cope) Where plasma is not available next best is infusion of protein hydrolysate slowly in dose of 1200 to 2000 c. c. taking at least three long hours after performing the skin sensitivity test.

(iii) Rest to the part.

(iv) Burnt area—Cleansing and debridement. If necessary wash with sterile warm normal saline solution. The best is application of sterile vaseline or petroleum gauzes.

Application of tannic acid and triple dyes—acriflavin brilliant

green, and gentain violet are said to be injurious to cells and are going out of use

Pressure bandage is to be applied over the dressing of the wounds of scalp face and extremities to prevent edema and oozing of serum But it should not be as tight as the tourniquet application.

(v) 1 per cent penicillin in supnonamide powder over a small area. Parenteral use of penicillin in big dose, in slowly acting form, as prophylaxis against infection when the burnt area is a big one.

(vi) Malnutrition is to be gaurded with diet of high protein fat, vitamins, minerals and water

(vii) Orally alkaline diuretic mixture three times a day

(viii) Guard against infection and toxemia with scruplus cleanliness and careful watch

CANCER (Incurable)

The following are suggested to relieve pain.

(i) Re, Morphine hydrochlor— gr ¼ (15 mg)
Chlorpromazine — gr 5/12. (25mg)

To be dispensed in a capsule.

Sig. Two to three capsules a day

The advantage of this is,—chlorpromazine relieves any nauseating effect of morphine and potentiates the sedative effect.

(ii) *Re* Morphine hydrochtor— gr ¼ (15 mg).
Cocaine hydrochlor— gr 1/6 (10 mg)
Sodium phenobarbital—gr ½ (30 mg)
Gin ad—1 OZ. (16 ml).

Sig. To be taken as directed.

For those who do not take alcohol, the drugs are to be dispensed in a capsule. To be taken at the discretion of the attending physician.

N. B. While prescribing such analgesics, the prescribing physician must not forget to put the registered number in the prescription.

(iii) Cobra Venom

Venum Najae. *(Cobra Venom)I (I. P).—By intramuscular* injection, Initial dose—1 to 3 Mouse Units. Subsequent doses—5 to 25 units or more gradually in increasing doses. Before injection the powder is to be dissolved in sterile distilled water. *Once or twice a week according to the effect.*

Cancrum Oris

Cancrum oris is the result of grave devitalising condition of the patient. At one time it was seen in cases of kala-azar

Treatment. 1. *Treat the underlying cause.*

2. Gargle—with potassium permanganate solution – strength (1:8000)—1 pint. (warm) Sig. To gargle continuously through a rubber tube *as long as the patient remains awake.*
3. Local application of acetone. A sterile cotton swab to be dipped in pure actone solution and applied locally 3 to 4 times a day
4. Antibiotics—penicillin and streptomycin parenterally
5. Transfusion of human whole blood or plasma or concentrated red blood cells when needed.

Carbuncles and cellulitis. (When active surgical treatment is not Possible).

Re, Exiccated Pure Magenesium Sulphate—1.5 lbs.
Pure Glycerin —11 Ozs.

Misce.

Method of preparation of the paste.—Glycerin is put in a very clean hot mortar and the dry sulphate added, slowly stirring and mixing with a warm pestle all the time.

The paste being very hygroscopic, should be kept in an air tight jar

Sig, To apply over the inflammatory area, spreading over a piece of sterile dry gauze

Parenteral use of penicillin streptomycin or aureomycin for penicillin resistant strain of the organisms. Insulin for diabetics.

CEREBRO-SPINAL MENINGITIS (Cerebro-spinal fever)

1 Rest in bed 2. Isolation of the patient.

Sulphadiazine—2 g (4 tablets) Crushed. To be taken with plenty of water Another dose to be repeated an hour after Subsequent dose 1g every four hours day and night. To be continued three to five days after clinical cure. Vitamin B complex should be given,

R, Sodii Bicarbonas— gr 20
Sodii Citras —gr 20.
Aqua Anethi Conc—m 5
Aqua ad 1 Oz.

Mist

Sig. One dose three to four times a day With plenty of water Modify the dose when the reaction of the urine is alkaline.

When the patient is unconscious or when he cannot take medicine per oral, Sodium sulphadiazine—2 g in a pint of normal saline, intravenously slowly by drip method. To be repeated four hours after Intravenous alimentation with glucose and protein hydrolysate to maintain nutrition. Start oral medication as soon as he is fit to take it. *N B* Intrathecal administration of sulphonamides—sodium salts are contraindicated due to its alkaline reaction Careful nursing, attention to bladder evacuation and prevention of dehydration are imperative.

Sulphadimidina (sulphamezathine) sulphamerazine are as efficacious as sulphadiazine. Here the dose may be repeated every six hours. Parenteral use of penicillin is advocated in serious cases. First dose should be given intrathecally—10,000 to 20 000 units in normal saline. The quantity will be less than the quantity of cerebrospinal fluid withdrawn. Streptomycin is advocated for H influenzae. Aureomycin or anti-meningococcal serum are advocated when the strain of meningo-coccus is sulphonamide-penicillin resistant. The author met such a case.

Restlessness and sleeplessness.

R, Chloral Hydras—gr 10
Sodii Bromidum—gr 20
Aqua ad 1 OZ.

Mist

Sig. One dose two to three times a day

When restlessness or sleeplessness are great—phenobarbitonum sodium—gr 3 intramuscularly

Cerebro-spinal meningitis in children.

Dose of Sulphonamides in Children. (Each tablet O 5g).

Ages of the children.

Dose of the drug.—Birth to—½ to 1 yr—2 to 3 yr—4 to 10—
6 months 11 & above

Initial dose— ½ tab with—½ tab —1 tab —1½ tabs —2 tabs
honey to 1

Subsequent doses—½ tab —½ tab.

for 2 to 3 days. Every 4 hrs. Every 4 hrs—Every 4 hrs—
—Every 4 hrs—Every 4 hrs.

4 to 5 days — To be given every six hours.
(with clinical
improvement)

6 to 8 days—To be given every 6 to 8 hours.

Alkalies, glucose and plenty of drinks should accompany

sulphonamide therapy The drug is to be continued for 3 to 5 days after clinical cure.

In severe infection, the initial dose should preferably be given intravenously slowly as 5 per cent solution in distilled water or normal saline, In severe infection. the total daily dose should be not less than 3 g, of course with proper precaution The dose worked out for Indian child is 1 to 2 grs per pound of the body weight. Intramuscular injection of sulphonamides is not advocated as it may produce neuritis

In severe infection penicillin intrathecally is advocated Nasal feeding in the unconscious

For convulsions and sleeplessness.—Phenobarbiton sodium—1 to 2 grs intramascularly or

Re Chloralis Hydras—gr 2.
Sodii Bromidum —gr 5
Aqua Destillate ad 1 OZ.

Sig. To be administered per rectum, by drip method with a sterile rubber catheter after an enema.

CEREBRAL THROMBOSIS

Re Tinc Nucis Vomicae— m 10 to 15
Aqua. ad 1 OZ.

Mist

Sig, One dose three times a day

Strychnine hydrochlor—gr 1/60. By subcutaneous injection

Injectio Nikethamidi—1 c.c. By subcutaneous or intramuscular injection If this be associated with chronic renal disease these drugs should not be used, (Stewart and Turner) But the following should be used

Re Spt Ammon Aromaticus— m 60.
Auqa ad 1 OZ.

Mist.

Sig. One dose three to four times a day

N B Venesection, purgation, hypertonic saline and drugs that lower blood pressure are not to be used.

In presence of arteriosclerosis iodides should be given. In presence of syphilis, anti-syphilitic treatment with iodides. Heparin intravenously is advocated.

Careful nursing, frequent change of posture, care of the bladder, massage and passive movement of the paralysed side, early ambulation are imperative.

Cerebral embolism.

Acidum Nicotinicum-100 mg (1½ gr) in normal saline intravenously for its vasodilation effect.

Quinidine should be stopped even in presence of auricular fibrillation when embolism is present. Treat the underlying causes such as myocardial infarction, subacute bacterial endocarditis etc.

CHANCROID The causative organism is Hemophilus ducreyi

Sulphadiazinum-2 g stat, 1 g every four to six hours At least 3 to 5 g daily with plenty of drinks, alkalies and glucose To be continued for 5 to 10 days. Antibiotics are also advocated streptomycin-0.5 g daily for 5 days. Aureomycin, chloramphenicol and terramycine are also advocated-2 g daily for 5 days.

Rest in bed, local cleanliness, wash the part with warm Sterile normal Saline.

CHICKEN-POX

For itching, In adults-1 per cent phenol in lotio calamine to apply locally 1 per cent Gentian violet to apply locally

For children, Lotio calamine with ½ per cent menthol. To apply locally For sepsis-sulphonamides or penicillin should be used locally

Isolation of the sick and quarentine of the contacts.

Itching when scabs are coming out.

Re, Olei Cinnamomi-m 2½
Vaseline Alba- 1 oz.
Ung. To apply locally

CHOLECYSTITIS, ACUTE.

Nausea and vomiting.

Re, Hydrargyri Subchloridum- gr 1/8 to 1/12.
Sodii Bicarbonas gr 2.
Menthol- gr 1/12.
Pulv
Sig. One powder every half an hour for eight doses.

Re, Sodii Bicarbonas- gr 30
Sodii Citras- gr 30.
Aqua ad O j.
Mft.
Sig. To sip ad lib

Pain and colic.

Re, Pillula Hydrargyri gr 1
Ext Hyoscyami Sicc gr ¼
Ext Belladonnae Sicc gr ¼
Opium Pulveratum- gr ¼
Menthol- gr 1/8
Gentainae Pulvis- q.s.
Mft.
Pillula.
Sig. One pill every three hours, in presence of acute pains, gradually with subsidence of pain, increase the interval to four six and twelve hours.

In man hepatitis is a constant accompaniment of cholecystitis" (Graham)

(ii) Re, Sodii Chloridum—gr 90
Sodii Bicarbonas—gr 160
Aqua Destillata ad Oj.

(iii) Re. Sodii Chloridum— gr 120 in Ringer's solution Oj.

(iv) Injectio Sodii Lactatis Compositus—(Ringer—Lactate solution)—Oj.

(v) Re, Sodii Chloridum—0.5 per cent.
Sodii Bicarbonas—0.5 per cent
Aqua Destillata ad Oj.

(1 per cent solution means—4½ gr in an ounce of water or 1Gm in 100 c.c. or mils)

(vi) Transfusion of plasma.

N B, The quantity of infusion is guided by the specific gravity of the blood, blood pressure, hematocrit reading of the blood, total red blood cells count, estimation of hemoglobin per centage carbon dioxide content of the alveolar air condition of the heart, and lungs, Take precaution against water intoxication.

Alkaline drinks.

Re, Sodii Bicarbonas—gr 60
Or
Sodii Citras —gr 60.
Aqua ad Oj

Sig. To sip ad lib.

Test the reaction of the urine with litmus paper Stop the drink when the urine *is alkaline in reaction, Circulatory stimulants*—Injection of adrenalin and nekathemide

Rectally—

Re. ½ to 1/5th normal saline in boiled tap water
Adrenalin tartrate solution (1 1000)—m 5 to 10 with this.

To help retention of sodium chloride and water

Re, Injectio Deoxycortoni Acetatis—gr 1/12 (5 mg) in 1 c.c
Intramuscularly

Uremia and Anuria

Re, Sodii Citras—gr 30
Spt Ammon aromaticus—m 30
Aqua ad 1 OZ.
Mist.
Sig. One dose every three hours.

N B. No potassium salts should be given as it is retained. (Saha and Das) Oxygen inhalation Increase of potassium and diminution of serum calcium and blood sugar are seen in cholera. (Chaterjee and Sarkar)

Injectio Sodii Citratis Cum Dextrose—(Strength—sodium citrate—2.5% and dextrose—2.5%)— One to two pints. Intra venously

Sodii Chloridum—10% solution—50 to 100 c.c. By intrave nous injection.

Parenteral use of antazoline (antistin)—1½ gr (100 mg) in 2 ml. or mepyramine maleate (anthisan)—1 to 2 c.c. of a 2.5% solution on the back over the kidney region. Vitamin c—7½ gr (500 mg), parenteral use is advocated. Cholera stool contains histamine. (Chatterjee)

Sodii Bicarbonas—1.5 to 2 per cent solution—one to two pints infusion is advocated.

Nausea and vomiting.

Re, Sodii Bicarbonas—gr 2.
Menthol —gr 1/16
Pulv
Sig. One powder every half an hour for 8 doses.

Tympanitis.

Re. Acidum Hydrochloricum Dil—m 90
Aqua ad Oj
Sig. To sip ad lib

Enema.

Re, Tinc Asafoetidae—m 60,
Hot normal Saline—Oj.

Sig. To be given per rectum with a No 12 rubber catheter for gas expelling.

Hypostatic congestion of the lungs —Intravenous injection of calcium gluconate—10%—10 c.c. and glucose—10%—20 c.c. by intravenous injection. In nursing, change of sides should be done.

Griping.

Re, *Tinc Bellaponae*—m 5
Sodii Bicarbonas—gr 7½
Spt Ammon Aromaticus—m 15
Spt Chloroformi —m 5
Tinc Zingiberis Mitis —m 20
Aqua Camphorae ad 1 Oz.

Mist.

Sig. One dose every 3 or 4 hours. To be stopped as soon as griping ceases

Diet—Plenty of boiled cool water green cocoanut water Locke s solution to drink, thin barley water boiled sugar candy water A few drops of lime juice. Avoid fruits.

In the convalescence, acid hydrochloric dil should be taken for some time after meals.

CHOLERIC DIARRHOEA.

Re, Tin. Cholorofomi et Morphinae Composita—m 5
Aqua Camphorae ad—1 OZ.

Mist.

Sig. One dose every three hours. Two to three doses are to be used only

Re, Spt Camphorae—m 10.

Mucilage Acacia—q s.
Acid. Hydrochloricum Dil—m 20
Acid Sulphuricum Aromaticum—m 10
Aqua Destillata ad 1 OZ.

Mist.

Sig. One dose after every evacuation. 4 to 6 doses only to be used.

Re, Kaolinum Leve ½ oz
Salol gr 10
Sodii bicarbonas gr 10

Sig. One powder every three to four hours, in half a-cup of water

CHOREA.

Re, Acidum Salicylicum -gr 5 to 10
Sodium Bromidum -gr 5

Pulv

Sig. One powder every six hours.

Re, Phenobarbitonum Sodium-gr ½ each tablet.

Sig. One tablet three times a day One tablet preferably before retiring

CHOREA, HUNTINGTON'S

Re Procain amide gr 15

Pulv

Sig. One powder three times a day

CIRRHOSIS OF THE LIVER.

Early Stage.

1 Rest in bed.

2 Diet. *Rich in assimilable protein (preferably milk protein)* high carbohydrate (including honey) low fat (Butter fat not exceeding 50 gm) Vitamins A B-Complex, C, D and K in tablet from, crushed and mixed with honey or yeast tablets. Orally prote n hydrolysate.

3 Drugs to be avoided-sulphonamides, butazolidin, alcohol, carbontetrachloride, etc. *Morphine should not be used.* Barbiturates should be used in a very small dose, if used at all.

Late cases.

Principles of rest and diet should be as in early cases. Intervenous glucose solution.

1. In advanced cases or in cases with previous history of hepatic coma the *following should* be used with caution and very sparingly such as ammonum chloride, high protein diet, methionine, *Diamox.*

2. Restriction of sodium chloride, use of mercurial diuretics with proper *pecaution.*

3. Intervanous injection of protein hydorolysate-25 to 200 c c. slowly after performing skin sensitivity test, in presence of hypo-proteinemia. The author has found good result in some cases

4 Injection of whole liver extract (Crude)-.. to 4 c.c. intra muscularly two to three times a week.

Saline purgative Sodium sulphate or sodium phosphate effer vesence gr 60 to 120 To be taken in half-a-cup of water in the morning.

6. *Hematemesis-Should be treated with* rest, *blood transfusion* or in its absence with plasma expanders with proper precaution *If it is severe surgeon should be consulted.* One must remember that hematemesis may precede hepatic *coma.*

Hepatic Failure (Hepatic Coma)

1 Rest in bed with proper intelligent and careful nursing is essential.

2. Intensive treatment with parenteral use of glucose solution, aminoacids, insulin nikethamide antibiotics, etc. are advocated.

3. Following continuous infusion is highly recommended (Kuhn).

Re, Ringer's solution-500 ml.

10 Gms of fructose

and

2 Gms of cholinechloride
in each ampoule 2 to 3 ampoules.

Or

3 Gms of acetyl-methionine
-choline in 30 c.c.

and

2 Gms of Fructose

Adreno-Cortical Extract 5 to 10 Gm

Vitamin B-Complex 1 ampoule

Itching.

Application of Talc powder with 2 percent menthol. Mode of use.—The part should be sponged with a hot solution of sodium bicarbonate (one tea spoonful in a tumbler of water) The excess of the solution should be mopped off so as to leave the skin some what moist. Next apply the menthol-talcum powder This causes the powder to adhere better and increase the cooling action. (Fantus)

When cirrhosis of cholangitic origin-Pruritus which can frequently be alleviated by methyl testosterone in doses of 5 to 10 mg one to three times a day (Kuhn)

Ascites (written before)

Cirrhosis of the liver Infantile Biliary

(In the etiology of the infantile biliary cirrhosis two things take part—malnutrition and infection),

1 Prophylaxis—Care of the mother during pregnancy puerperium and during lactation period The diet of the mother should be well balanced with regard to protein fat carbohy drate, minerals and vitamins etc. Over-work should be

avoided. The object is to make the breast milk good in quality and quantity.

When the disease is manifested—

1 Rest in bed,

2 Wet nurse where available

3 Diet—Easily digestable rich in carbohydrate (with honey), protein (milk protein preferred) supplemented with protein hydrolysate, low fat (only butter fat allowed), minerals and vitamins etc.

4 Purgative—Milk of magnesia—one tea spoonful in the morning.

5 In advanced cases—parenteral use of glucose, vitamin B-Complex, whole liver extract, essential amino acids, when necessary dried plasma infusion are advocated. Antibiotics according to the nature of pathogenic organisms isoloted. Elixir Terramycin—30 minim, three times a day is advocated (Roy Chowdhury)

6, *Change of air when necessary*

Purgatives, advocated.

For a child six months old.

Re Magnesii Carbonas Ponderosus—gr 2.

Or

Magnesii Phosphas—gr 10
Pulv Rehi Co —gr 1
Sodii Bicarboans —gr 2.

Pulv

Sig. One dose, twice daily

Re, Sodii Phosphas—gr 15 to 20. May be given in the morning.

Choleretics.

(Old prescription)

Re, Hydrargyrum Cum Creta—gr 1/12,
Ipecacuanha Preparata—gr 1/12.

Salicinum —gr 1
Ext Euonymi —gr 1/16.
Sodii Bicarbonas —gr 2.
Pulv

Sig. One powder three times a day

If there is no contraindication, the following may be used

Re, Sodium Dehydrocholate—gr ½ to 2. in fruit juice two to three times a day

Insulin—1 to 5 units with appropriate amount of glucose solution parenterally

N B. As the disease runs in some families or children of a mother the breast milk of the mother is stopped. Put on a fresh goat's milk. Skimmed milk. Protein hydrolysate. Methionine. Vitamins and minerals. Soft sun dried boiled rice, fish. Fruit juices. Honey etc. as the disease often is seen in ages upto two years in a child

Cold, The Common (Acute Coryza)

Re, Acidum Acetylsalicylicum—gr 5
Pulv.

Sig. To be taken two to three times a day

When headache is intense

Re, Acidum Acetylsalicylicum—gr 3½
Phenacetinum —gr 2½
Pulv

Sig. To be taken three times a day

When cough is irritating and non-productive.

Re, Acidum Salicylicum—gr 5-
Phenacetinum —gr 5
Codeinae Phosphas—gr 1/8.
Pulv

Sig. To be taken every three hours for two to three doses.

When pain is present in the trachea or sternum.—Application

of mustard plaster (made with cold water) the size of a rupee, on the trachae or the sternum for five to six minutes.

In a malarial place,

Re, Quininae Hydrochloridum—gr 5
Vinum Galici —m 60.
Aqua Chloroformi ad 1 OZ.

Mist

Sig. To be taken immediately before retiring.

Useful spray to diminish the turgesence of the nasal mucosa and to restore the activity of the ciliary function.

Re Ephedrinae Hydrochloridum—O 5 to 1 percent in normal saline.

N. B. The following should not be used as they diminish ciliary activity in spite of their soothing properties—liquid petroleum, eucalyptus, menthol, comphor and thymol., epinephrine in (1.5000).

Menthol should not be used in nasal spray in infancy for toxic action. Nasal drops of liquid petroleum have produced lipoid pneumonia. (Heatly)

Troublesome irritation of the nasal vertibule and upper lip.

Application of any one of the following ointments is advocated—

Ung Acidii Boricl (1 /10) or Ung Zinci Oxidii (15 /o)

Re Argenti Nitras—1 to 2 per cent, in chloride free distilled water

Sig To apply in the naso-pharynx with a cottonswab at bed time in the acute stage.

Inhalation of Benzadrine diminishes congestion It should not be excess.

N B. Absolute rest in bed in persons with organic diseases particularly Plenty of warm drinks, To be covered up with warm blankets. A dose of Seidlitz Powder in the following morning are useful adjunct. Isolation is important.

Colic (in Adults).

Biliary Colic— Atropine sulphate—gr 1/100 subcutaneouly papaverine hydrochloride—gr 1½ (100 mg) intravenouly pethedine hydrochloride—gr 1½ (100 mg) are advocated, Pethidine may be repeated every 2 hours Morphine—gr ¼ to 1/3 is recommended for the relief of pain. The known effect of of morphine in increasing the spasm of the sphicnter of Oddi considered by many to be a contraindication to its use. It has a tendency to cause vomiting.

Antispasmodics such a inhalation of one capsule of amyl nitrite, or taking in glyceryl nitrite—gr 1/100, erythral tetranitrate—15 to 30 mg are of limited value. (Tunbridge)

Colic Renal—The acute condition should be treated like biliary colic.

Colic, Intestinal.

Re, Spt Aetheris— m 15
Spt Chloroformi—m 5
Spt Ammoniae Aromaticus—m 15
Aqua Menthae Pip Conc—m 5
Aqua ad 1 Oz.

Mist.

Sig. One dose to be taken every hour for 2 to 4 doses.

In presence of constipation and severe colic the following are used,

Re, Olei Recini—1 OZ.
Tinc Opii —m 10

Misce

Sig. To be taken immediately

Re, Olei Recini -m 120.
Tinc Rhei Co m 60
Tinc Opii m 5
Aqua Cinamomi Conc m 10
Aqua ad 1 oz.

Misce.

Sig. To be taken every hour for two doses only It is preferable, when irritating food is present. The after effect is constipation.

N.B. The medicine should be firmly shaken before being taken.

Colic, in presence of looseness of bowels.

Re, Olei Recini -m 10
Mucilage Acacia -q.s.
Tinic Belladonae -m 1
Tinc Cannabis Indica-m ½
Tinic Opii camphoratae -m 5
Aqua Camphorae ad ½ o.z,

Mist

Sig. One dose every hour for three to four doses.

Colic, Intestinal (In Infants).

Re, Tinc Belladonae m 1
Aqua Anethao Conc -m 1
Aqua ad-1 drm.

Mist.

Sig One dose every hour for three to four doses.

N B. Most often babies at the breast, sleep nearest to the mothers breast. The mother falls fast asleep. The baby sucks the mothers breast to its heart s content and often cry for griping. In such cases the breast feeding should b. stopped from 10 P M to 4 A M in the morning. If the baby cries for a feed simple boiled water should be given. It prevents colic.

Colic with sleepless ness.

Re Sodii Bromidum -gr 3
Tinic Belladonae m 3
Syp, Simple m 10.
Aqua Anethae Conc -m 2
Aqua ad 2 drms,

Mist.

Sig. one dose three times a day after meals.

Colic. In presence of Tympanitis and loaded Rectum

Re, Tinic Asafoetidae- m 60 to 90

Mucilage Acacia -q.s

Olei Recini 1 oz.

Aqua ad O J

Mft. Enemata.

Sig. Dose-for 1 to 5 years 3 to 5 ounces. 6 to 10 years 6 to 8 ounces

Mode of injection per rectum-To be injected with boiled and sterilised rubber catheter No 10 well lubricated with boiled and sterile oil. Not more than two inches should be introduced into the rectum No force should be exerted It should go by way of gravity The column of fluid will be one foot above the anal opening.

N.B. Proper care should be taken of the feeding of the babies as regards to quality quantity and interval. Always ensure rest to the stomach of the baby for as a few hours between the late hours of the night and early hours of the morning

Colic, Lead.

To help storage of lead in the bone

Injectio Calcii Gluconatis-10% solution 10 to 20 c.c By intra muscular or intravenous injection of calcium chloride-5% 10 c.c. It may be repeated every two to three hours.

Atropine sulphate-gr 1/60 is advocated if pain is not relieved.

Diet-should be rich in calcium-such as milk, etc

Calcium versenate to be used as written under lead neuitis

In presence of constipation, magnesium sulphate solution-240 grs in an ounce of water is to be administered.

Colitis, Chronic (Including Mucous colitis, Chronic Idiopathic Ulcerative colitis, Irritable colon).

Re, Sodii Bromidum—gr 5.

Tinc Hyocyami—m 15
Tinc Belladonna —m 5
Aqua Anethae Conc—m 5
Aqua ad—1 Oz.

Mist.

Sig. One dose three times a day

Re, Phenobarbitonum—gr ¼ to ½
Atropinae Sulphas—gr 1/100
Saccharum Lactis—gr 5

Pulv

Sig. One powder two to three times a day before retirement or meal. If pain be severe, codeinae phosphas—gr 1/6 to ½ may be added.

Pain in the abdomen—Superficial application of lin-seed poultice—fresh and warm,

Rectal Enemata—The following are advocated.

1 Warm normal saline enemata—OJ
2 Methylene Blue in distilled water—strength—1 10,000 to 1 5000.—O J
3 Albargin—Strength—1 gr in an ounce of distilled water—One pint at a time

Constipation.

Re, Ispaghulae Testa—gr 30 to 60. To be soaked in water and sweetened. To be taken at bed time.

Re, Warm olive oil—4 OZs.
Liquid Paraffin—4 OZs.

Misce.

Sig. To be injected per rectum, very slowly

N B. Diet—High caloric, high protein, fat, carbohydrate. non-residue diet. Vitamins are advocated, if necessary parenterally

Psychogenic treatment is an essential part.

Rest in bed in acute exacerbation.

Anemia—To be treated with oral ferrous salts—e.g. sulphates, lactate or gluconate In urgent cases intravenous iron therapy with proper precaution. In grave form of aemia—whole blood transfusion is indicated.

Sulphonamides and penicillin have not produced much good result.

Terramycin, aureomycin and ACTH cortisone are on trial.

Condylomata, Lata. (Generally present in the vulva and anus) Mostly syphilitic. Often due to gonorrhoea.

Local—Cleaning with Lotio Hydrargyri Nigra—(Black wash) —OJ The part should be thoroughly dried with dry sterile gauze and dusted with the following powder

Re Hydrargyri Subchloridum—gr 120
Calamina Preparata —gr 120
Pulv

Or

Re, Hydrargyri Subchloridum—
Iodoformum — } Equal parts.

Sulphonamide powder may be dusted. But if the area is large if prolonged toxic signs may appear

If the condylomata is small and sessile and dry older group of physicians recommend the following painting locally after careful drying,

Re. Acidum Salicylicum—gr 30
Ext Cannabis Indica—gr 30.
Collodium Flexile —1 Oz.
Misce.
Sig. To apply locally (Martin and White)

General systemic treatment with penicillin.

Constipation., In children. Habitual and no organic caus. is present.

N B. In children constipation should be dealt with regulation of a well balanced diet, exercise habit—making, plenty of water

Sig. Two capsules at a time one to three times a day before meals.

Re Isphaghulae Testa—one to two tea spoonfuls of powder to be taken with a little sweetened water at bed time

Re, Oleum Olivo—½ to 1 OZ. To be taken at bed time

N B It is very useful in cases of constipation associated with inflammed and painful piles, anal fissures and rectal ulcers, when the diet contains least amount of fat and less secretion of bile.

In presence of hard scybala—an enema—1 part of hydrogen peroxide and three parts of water (tap and boiled and cool)—OJ answers well.

In presence of high temperature—warm normal saline enema—OJ in an adult, is good.

Oil *enema—Re, Oleum Ricini*—4 OZS

(Mixture of oils). Oleum Olivae—4 OZS.

Or

Liq Paraffin
Ground nut oil— } a a 2 OZS.

Misce.

Sig. To be injected per rectum with a rubber catheter

In treatment of constipation diet regularity drinking of water in between meals, massage abdominal exercise and *psychotherapy deserve attention*

Purgatives—These are used when loose evacuation is wanted.

Re, Oleum Ricini—m 60 to 240 Often 1 OZ is given

Sig. To be administered in the morning. The pleasant way to administer it is to shake it with warm milk and take it. It will be like cream and will remove unpleasant taste.

It is used even in pregnancy and in the puerperium. In presence *of irritating food or in the early stage of dysentery, the* full dose is administered with 10 minims of Tinc Opii

When watery or copious evacuations are needed.

Any one of the following may be prescribed.

Re, Granulae Sodii Sulphatis Effervescentes—gr 60 to 240

Or

Granulae Sodii Phosphatis Effervescentes—gr 60 to 240.

Sig. To be taken in the morning, in a glass of ice cream lemonade.

N B. It is useful for torpid liver alcoholics and fashionable ladies who want to take a saline purgative in the sunday morning.

Re. Magnesii Sulphas—gr 240
Tinc Cardamom Co—m 30.
Aqua Menth Pip ad 1 OZ.

Mist.

Sig. One tea spoonful in a cup of water every hour till the bowel moves in the morning.

Re, Magnesii Sulphas—1 OZ.
Aqua ad 6 to 8 OZ.

Mist.

Sig. To be given per rectum.

N B. It is useful where cerebral edema is present and dehydration is wanted.

Usual hospital formula (Mistura Alba)

Re Magnesii Sulphas—gr 60
Magnesii Carbonas Levis—gr 10
Aqua Menth Pip ad 1 OZ.

Mist.

Sig. To be taken in the morning.

N B. Potassium bromide—gr 10 may be added to this mixture in presence of constipation and scanty flow of menstruation

Re, Pulvis Effervescens Compositus—(Seidlitz Powder) — One.

Dissolve No 1 powder in a tumbler of cold or warm

water add No. 2 powder To be taken while effervescing.

Re Pulvis Jalapae Co—gr 10 to 60,
Potassii Tartras Acidus—gr 10 to 15

Pulv

Sig. To be taken in the morning with little water

N B It is used in Bright s disease uremia and ascites.

Re, Pillula Hydrargyri—gr 4
Pillula.

Sig. To be taken in the evening. To be followed in the next morning by a dose of Mist Alba Useful in cardiac cases.

Habitually constipated persons often take one of the following —

Infusion of a few senna pods or Elixir Cascarae Sagradae—m 30 to 60. The former in the morning and the latter in the evening.

Constipation, Spastic.

Re, Sodii Bromidum—gr 5
Tinc Belladonae—m 10
Aqua Chloroformi ad 1 OZ.

Mist.

Sig. One dose, twice daily—once in the morning and at bed time.

Often atropine sulphate—gr 1/64 is prescribed at bed time.

Gaurd against dryness of the tongue.

Hypodermic purgatives—Posterior pituitary ½ to 1 c.c., physostigmine salicylate—gr 1/100 to 1/50, prostigmine—gr 1/128 to 1/32 (O 5 to 2 mg) They are used in post-operative atony of the intestines.

Convulsions, In infancy and childhood.

(Fits may be due to causes—psychological e.g. hysteria etc.

biochemical e. g. tetany uremia, hypoglycemia etc, epileptic, infections e. g. malaria, meningitis etc)

Re, Chloralis Hydras—gr 3
Sodii Bromidum—gr 5
Aqua ad ½ OZ

Mist.

Sig. To be given per rectum slowly every four hours

Phenobarbital sodium—gr 1 to 2 by subcutaneous or intramuscular injection.

Treat the underlying cause and dehydration.

Convulsions in adults,

Re, Chlorbutol—gr 30
Oil Olive—2 drs.

Misce.

Sig. To be administered by rectum.

Sodium phenobarbital—gr 6 to 9 intramuscularly or intravenously

Coronary Thrombosis. (Myocardial Infarction)

(Myocardial infarction is one of the commonest accidents in the course of coronary artery disease. It is usually caused by thrombosis of coronary vessel, but it may result from prolonged ischemic secondary to inadequate coronary blood flow In the first few days after the onset of the myocardial infarction, ischemic changes leading to necrosis occur in the muscle. During the second and third weeks healing processes set in including fibrosis and the development of collateral circulation).

Principle of treatment.—of Acute Myocardial infarction

1 Rest in bed. Absolute in the acute stage. Next commode can be used at discretion so also the arm chair

2. Diet—First day or two liquid diet or very lightest diet without salt. Even in patients without symptoms a bland diet,

0.5 gm or quinidine sulphate—0.9 to 0.4 gm every six hours, Heart block—If Stokes—Adams attacks are threathened, ephedrine or adrenalin tartrate should be given subcutaneously or in an emergency intravenously with proper precaution and slowly in normal saline.. Although a physician may hesitate to give ephedrine or epinephrine to patients with myocardial infarctions, the ocurrance of Adams—Stokes attacks is a medical emergency that requires whatever specific treatment is most effective. (Ellis and Hancock)
Anti-coagulants.

Anticoagulants in the treatment of myocardial infarction is till a controversial subject. But it has been definitely shown that right use of anticoagulants in myocardial infarction has diminished mortality and thromboembolic complications. Wright is in favour of long term anticoagulant therapy in patients with repeated attacks of myocardial infarction and with multiple thrombo-embolic phenomena,
Russek and Zohman opine that anticoagulants are not to be used in 'Good Risk Patients classfied at the time of first examination. They are—those who have never had previous infarctions, who do not have intractable pain, extreme or persistent shock, significant cardiac enlargement, gallop rhythm. congestive heart failure, auricular fibrillation or flutter or ventricular tachycardia, or intraventicular block. and who do not have diabetic acidosis or other states, predisposing to thrombosis are classified as good risks. Mortality was 8.5% in contrast to 60% in the poor risk patients, Anticoagulants should always be used in "poor risk patients.
Wright asserts that if a patient suffers from a definite myocardial infarction. if there are no contraindications, and if good facilities are available, he should get anticoagulant treatment.
Newer anticoagulants.—

Ethylbiscoumacetate (Tromaxan acetyl acetate) Bishydroxy coumarin (Dicumarol) Phenylenediadone Heparin.

In order to get rapid effect—1200 to 1500 mg of ethyl biscou macetate and 230 to 300 mg of bioydroxy coumarin is given at the same time. There after dicoumarol is given daily regulated by prothrombin time by Quick s one stage method the desirable therapeutic level is 22 to 35 seconds witn a control level of 15 seconds. The average dose of dicoumarol is 75 mg a day but it may vary from 25 to 150 mg.

If the patient is acutely ill, and especially if he has had recent evidence of thrombo-embolic complications, it is advisable to initiate treatment by administering 75 to 100 mg of heparin sodium subcutaneously at twelve hours intervals for two doses. The first dose should precede the administration of Tromexan and Dicoumarol.

The short acting drugs such as ethyl biscoumacetate have now only the advantage of rapid initial action, since the action of the long acting ones can be terminated promptly by the use of phytonadione (Vitamin K_1) Vitamin K_1—acts well both orally and intravenously If the prothrombin time is 60 seconds 10 mg orally of Vitamin K_1 is sufficient. If the prothrombin time is above 30 seconds, 20 mg of Vitamin K_1 is sufficient.

It has made anticoagulant therapy free of risk. In severe cases of bleeding, blood transfusion is indicated.

Many advocate phenindione which is 2—phenylindane—1 3—dione. It is a synthetic anticoagulant Its position is between dicoumarol and ehtyl biscoumacetate Gupta and Mitra found that prothrombin reached its peak with Bindan (B. I) (phenindione) between 120 and 144 hours in a study of 22 cases. And the peak value was maintained with this prepara tion. Initial dose—200 mg in divided doses in the first twenty-four hours. Maintenance dose—25 to 150 mg. The dose is

to be regulated by the prothrombin time. The prothrombin time comes to normal in two to three days on cessation of the drug. Anticoagulant therapy is generally continued for four *to six weeks*. Beaumont et al concluded that *hypercoagulability* of blood persisted upto forty-eight hours after the infarct was sustained, to be succeeded by a reduced clotting tendency *for approximately the next ten to fourteen days.* When a *patient* is under an anticoagulant therapy Vitamin K_1 tablet and injection should be always with him. His blood grouping should be done. Urine should be *examined every* day to detect microscopic hematuria.

Major factors responsible for the misuse of anticoagulants include (Wright)

1 Self medication with prothrombin tests. 2. Medication under physician's discretion but without correct control. 3 Administration of anticoagulants in the face of contraindications. 4 With-holding of anticoagulant therapy in the presence of definite indications. 5 Excessive dosage. Danger of anticoagulant therapy—is hemorrhage. Hemorrhage may be from nose, mouth, lungs, stomach, kidney etc.

6. Inadequate dosage.

Contraindications to anticoagulant therapy —

1 Hemorrhagic diseases 2. Peptic ulcer 3 Diseases of the liver 4 Diseases of the kidney

In conclusion no anticoagulant is successful. None is devoid *of risk. Their successful use demands that careful clinical* supervision should be helped by reliable laboratory facilities. It is how adverse conditions are avoided. Long continued use of anticoagulant over years with care is a distinct help to avert thrombo-embolic complications. (Wright). Efficiently used, anticoagulants make a distinct contribution to the treatment of acute myocardial infarction. (Gilchrist and Tulloch).

Long time management of coronary artery disease—Ellis and Hancock suggest the following.—Restriction in the use of tobacco and alcohol. Efficient management of myocardial infarction with rest and necessary therapies. In the diet, use of lipotropic substances such as inositol, choline and heparin are suggested. It is said that these agents will help in the reduction of atherosclerosis.

Cystitis.

(Send the fresh urine, taken aseptically for culture and determination of its bacteriology)

Pyuria—(A) Reaction of the urine-acid-may be due to B. coli, tubercle bacilli, and gonococcus. (B) Reaction of the urine-neutral-may be due to B coli and streptococcus. (C) Reaction of the urine-alkaline-may be due to Staphylococci and B Proteus. In the acid urine the following may be given—

Re Sodii Citras—gr 15
Or
Sodii Bicrabonas—gr 15
Tinc Hyocyamus —m 30
Aqua ad 1 OZ.

Mist.

Sig. One dose every three to four hours with plenty of water When the reaction of the urine is alkaline stop the mixture.

In the alkaline urine—the following were given before

Re Sodii Phosphas Acidus—gr 30
Aqua ad 1 OZ.

Mist.

Sig. One dose, three times a day Each dose is followed by a dose of hexamine —gr 5 With plenty of water

Now mandelic acid therapy and newer sulphonamides have taken the place of hexamine

Sulphadiazine or sulphacetamide or gantrisin—0 5. Gm, every six hours with plenty of water alkalies and glucose.

Antibiotics—streptomycin, terramycin etc are used according to the bacteriology

Rest in bed, plenty of drinks, light nutritious diet with alkaline ash, warmth to the hypogastrium.

Bladder wash with 2 per cent warm boric acid solution. Treat the underlying cause-is always imperative.

Diarrhoea., In Children.

(Diarrhoea in the children may be due to errors in the diet infections in the gastrointestinal tract with often determinate or indeterminate bacteriology infections outside the gastro-intestinal tract such as otitis media etc. Diarrhoea is more common in the summer More common in the artificially fed babies Stools—Test the reaction of the stool, examine microscopically and send for culture when possible.)

Management consists of rest, warmth to the abdomen, replacement of water electrolytes, protein, and treatment of the parenteral infection when possible. Correct the errors of diet. Teach hygiene of the feeding of the babies to those entrusted with care of the baby or child.

Drink—The following drink is advocated by Darrow

Re Sodium bicarbonate—1 G
Sodium chloride—1 G
Potassium chloride—1 G
5% glucose solution ad 1 Liter

Rectally—One part of normal saline and three parts of boiled tap water by drips, through a rubber catheter The height of the column of liquid will be a foot above the anal opening. In the unconscious child, when hypotonic solutions were given before, rectally diluted saline with tap water should not be given. It will avert water intoxication.

Re, Kaolin Leve —4 to 8 G
Or/and
Carbo Ligni Activatus—2 to 4 G
Saccharin —0.1 to 0.2 G (2 to 3 gr)
Aqua ad —2 OZs
Misce.

Sig Stir the suspension, give one tea spoonful every 15 minutes. Stop it when the looseness of the bowel ceases When the color of the stool is white or non-bile stained.

Re, Hydragyri Subchloridum—gr 1/64 to 1/32.
Sodii bicarbonas —gr 1
Pul.

Sig. one powder every 2 to 3 hours

Sulphanilylbenzamide, succinylsulphathiazole, phthalylsulphathiazole are advocated so also streptomycin, terramycin, chloromycetin etc.

Diarrhoea with colicy pain.

Re Olei Recini—m 5 to 10
Mucilage Acacia—q s,
Tinc Belladonnae—m 2
Tinc Cannabis Indica—m ½
Aqua anethe Conc—m 2.
Aqua ad —2 drs.
Mist.

Sig. One dose every 2 to 3 hours.

Diet—Green cocoanut s water skimmed milk,, sour milk, lactic acid milk (4o m of lactic acid B.P to a pint of skimmed milk), ghol, (if the reaction of the stool is alkaline or neutral) boiled sugar candy water protein milk etc. Fats and carbohydrates are badly tolerated.

Diarrhoea in adults

Re, Pulv Creta Aromaticus—2 to 5 G

or

Pulv creta aromaticus cum opio—1 4 to 2.6 G (20 to 40 gr) (Opium—2.5%).

Pulv

Sig *To be taken 6 to 8 hours a day*

Diarrhoea-Gastric variety

Re. Acid hydrochlor dil—4 to 8 ml,
Aqua, Sweetened ad—2 Ozs.

Mist

Sig. To be sipped through a glass tube twice daily after meals.

Diarrhoea Lienteric

Injectio Morphinae Sulphatis—gr 1/8 to 1/3 before meals.

Codeine phosphate—gr 1/4 and Phenobarbitonum gr 1/2, twice daily

Diarrhoea, In anxiety state,

Re, Sodii Bromidum—gr 5 to 10
Tinc Valerianae Ammoniata—m 30.
Aqua Camphorae ad 1 OZ.

Mist.

Sig. To be taken twice daily

Re, Phenobarbitonum Sodium—gr ½
Saccharum Lactis —gr 5

Pulv

Sig. One powder twice daily

Rest in bed, preservation of the warmth of the body plenty of water to drink (boiled and cool) gaurd against dehydration. In presence of dehydration-salines-infusions or parenterally Nutritional variety —To be treated with intravenous administration of protein hydrolysates and vitamins etc,

N B. The cause of the diarrhoea is to be found out and treated. By examination of stool, urine, thyroid function. and psychoogically if necessary

Non-Tropical sprue—Cortisone—25 to 50 mg daily (Shalken)

Diarrhoea, Puerperal

When the colour of the stool is bile colored

Re, Tinc Podophyll—m 1

Aqua Cinammomi ad ½ OZ.

Mist.

Sig, One dose every four to six hours.

Delirium.

To ensure sleep

Re, Sodii Bromidum—gr 15

Chloralis Hydras—gr 15

Aqua ad 1 OZ.

Mist.

Sig. One dose every three hours,

Re, Paraldehydum—m 60 to 120.

Normal Saline—2 Ozs,

Mft.

Sig, To be given per rectum,

Phenobarbitonum Sodium—gr 1 to 3 By intramuscular or intravenous injection.

Morphine or hyoscine hydrobromide should be injected with caution. Treat the underlying cause.

Dengue.

Re Sodii Salicylas—gr 5 to 10.

Sodii Bicarbonas—gr 5 to 10.

Sodii Bromidum—gr 10 to 15

Aqua ad 1 OZ.

Mist.

Sig. One dose every four to six hours.

Rest in bed and liquid nutritious diet

Dental Caries.

Re, Oleum Menthae Pip—m 60
Phenol Liquefactum—m 60
Oleum Caryophylli—m 60.

Misce. Shake well before use.

Sig. Plug the tooth cavity with smallest amount of cotton soaked in solution.

Care of the oral cavity brush the teeth before returing, take some acid or sour thing last in the meals. Diet should be rich in vitamins—A,D C etc. and the drinking water should contain a trace of flourine

Diabetes, Insipidus.

Injection of posterior pituitary—3 to 8 m (2 to 5 units)

By subcutaneous or intramuscular injection for one to two weeks,

Diabetes Mellitus.

Management of diabetes mellitus depends on four principles—(Ricketts)—(a) To relieve symptoms. (b) To achieve and maintain normal nutrition. (c) To preserve whatever is left of the insulin producing power of the pancreas. (d) To prevent, postpone or minimize complications. In moderately severe or severe cases insulin, regulated diet, excercise-are the bye words of treatment. In elderly patients, codiene phosphate tablet—gr 1/6 to ¼ each. One tablet three times a day—is often prescribed,

Oral Treatment of Diabets mellitus with a hypoglycemic agent.

Oral hopoglycemic agent,

Tolbutamide—(Syn, "Orinase" "Rastinon")

Tolbutamide is a hypoglycemic agent of recent orign. Tolbutamide is—1-butyl-3-p tolyl-sulfonylurea, It is not a sulphonamide. It has no antibacterial action. It does not produce crystalluria Carbutamide first came into use as hypoglycemic

agent; but it proved to be very toxic and has been abandoned. It is now replaced by tolbutamide which has a methyl radicle in the para position of the benzene ring.

Mode of action and excretion.—The exact mode of action of tolbutamide is not known But tolbutamide does not act in absence of beta cells in the pancreas. It stimulates the beta cells to produce insulin, however small it may be. It potentiates the action of circulatory insulin. Prolonged administration of tolbutamide does not produce any histological changes in the liver and pancreas. It is quickly absorbed when ingested orally It is rapidly eliminated in the urine and hence less toxic. The peak level of tolbutamide in the blood, after absorption, comes in three to four hours.

Indications of tolbutamide therapy —Tolbutamide is indicated in following conditions —(1) An individual who has become a diabetic after 40 years of age, He may be an obese. He *is* moderate or moderately severe stabilized diabetic who cannot be controlled with diet alone The sooner tolbutamide is used after detection, the better is the result. (2) In diabetics, whose daily insulin requirement is between 20 to 40 units. (3) Diabetic who does not show any tendency to ketosis. (4) Diabetics who never showed previous history of diabetic coma. (5) Diabetics, whose fasting blood sugar while receiving no insulin, should not exceed 300 mg per 100 ml of blood. (Dunlop) (6) Diabetes, complicated with retinopathy but it may cause retention of nitrogen in nephropathy It has occasionally been effective in insulin resistance and acromegaly but less so in hemochromatosis or with steroid therapy (Beaser)

Dose—Tolbutamide—0.5 g each tablet Initial dose—2 to 3 g on the first day—Maintenance dose—0.5 to 1.5 g. The drug may be given in as a single dose in the morning or in divided doses throughout the day The plan of use is suggested.

6

(Lukemeyer).—In patients who are taking less than 20 units of insulin daily insulin is discontinued.

First day of therapy—6 tablets (3 g) in the morning.

Second day of therapy—4 tablets (2 g) in the morning.

Third day—0.5 g each tablet, 2 to 3 times a day as indicated by urine sugar level and the fasting blood sugar levels.

Maintenance dose advocated is 1 to 1.5 g. If the patient is taking 20 units of insulin daily the insulin is decreased by 25 to 50 per cent on the first day of tolbutamide therapy and reduced thereafter according to the response of tolbutamide. If the patient is taking more than 40 units of insulin daily the insulin is reduced by 20% on the first day tolbutamide is started and the insulin reduced thereafter according to patient's response to tolbutamide therapy

With tolbutamide therapy diet restriction is imperative.

Contraindications to tolbutamide therapy —The following are contraindications to tolbutamide therapy —In juvinile diabetes, diabetes with ketosis, where more than 40 units of insulin are required daily infection complicating diabetes, in cases with previous history of diabetic coma, diabetic under going surgical operation, diabetes complicated with diseases of the liver and the kidney

Untoward side effects of tolbutamide therapy —They are—allergic skin rashes, nausea, epigastric pain, acid regurgitation etc In fine, in the present state of knowledge, tolbutamide should be used with caution

Diabetic Coma

Principles of management—(Duncan)

1 Examine the urine and blood for sugar and acetone bodies. The dose of the insulin is guided by the Rothera s test in urine and blood

Insulin—(Plain or crystalline)—Initial dose—100 units—40

units intravenously and 60 units subcutaneously with 25 units at one hour interval, until the undiluted plasma gives less than grade 4 (severe) reaction to Rothera s Test.

Replacement of fluids and electrolytes—sodium chloride, potassium, inorganic phosphorus and magnesium. The last three are not deficient until the therapy is started well and a little advanced. Fluids are administered intravenously and quickly in adults. In shock like state—plasma transfusion in one hand and normal saline in the other Alkali in the form of sodium (Racemose)—lactate solution (one-sixth molar solution) is indicated, in presence of extreme ketosis and if the patient is hyper-apnaeic. At the onset of diabetic coma, blood sugar generally comes to 300 to 800 mg per cent. There is no justification of giving glucose with insulin at the start of the treatment But when the treatment is much advanced, and the catheter specimen of urine shows no sugar to Benedict's reaction and the patient not taking anything orally or sufficiently and there is chance of onset of hypoglycemia, glucose solution—5 to 10 per cent—infusion is indicated.

Causes of death in a diabetic—in order of merit—vascular disorders coma, infections—Staphylococcic, other pyogenic, tuberculosis hypoglycemia, uremia and causes unrelated to diabetes.

Diphtheria

Diphtheria attacks children, adults and even men above fifty Mortality is high in the elderly

Principles of management—Isolation of the patient.

Absolute rest in bed in the acute stage of the disease, Rest in bed for three weeks in the convalescence. Principle of antitoxin treatment—When one suspects diphtheria, send the

swab for bacteriological examination and inject antitoxin—5000 to 10,000 units immediately without waiting for the report. Exact dose of the diphtheria antitoxin cannot be stated for an individual case. But the dose varies from 20,000 to 100,000 units according to the site, extent and duration of the disease and when it complicates other diseases such as measles, typhoid fever etc.

Dictum is to give more than less. The maximum amount should be given at one time. When the life is threatened, half the amount should be given intramuscularly and half the amount intravenously with normal saline taking all precautions for serum administration. Under dose and repeated small doses are condemned. (Dwyer).

Penicillin and sulphadiazine with plenty of alkalies and glucose are adjuncts to antitoxin treatment in the present time.

Tracheotomy in presence of laryngeal obstruction.

Re, Calcii Lactas—gr 30.

Pulv

Sig. One dose three to four times a day with plenty of honey

Re, Calcii Chloridum—gr 5 to 10.

Acidum Hydrochloricum Dil—m 5

Glycerinum —m 30

Aqua ad 1 OZ.

Mist.

Sig. To be taken three times a day

Cardiac condition—Parenteral use of glucose—5 to 10 per cent, Calcium gluconate with or without ascorbic acid—100 to 200 mg, caffeine sodii benzoas—gr 7½ strychnine—gr 1/30 to 1/20 are advocated.

Dry cough—Inhalation of steam laden with Tinc Benzoin Co—one tea spoonful in a tumbler of boiling water

To prevent serum reaction—immediate injection of adrenalin

tartrate solution—½ c.c. and atropine sulphate—gr 1/100 or antihistamine drug.

Re, Calcii Lactas—gr 20
Ephedrinae Hydrochloridum—gr ¼
Saccharum Lactis—gr 3

Pulv

Sig. One powder every six to eight hours

Diet—Liquid nutritious diet, rich in protein. Citreus fruit juice. Honey sugar candy juice, fluids, protein hydrolyste etc. Small but repeated feeds.

Post-Diphtheritic paralysis,

Easton syrup—Dose—Children—10 to 20 m
Adult—30 to 60 m.

To be taken three times a day after meals with water

Strychnine hydrochloride—gr 1/100 orally or subcutaneously every day or alternate days. Always test the reflexes to guide the dose of strychnine, Aneurine hydrochloride (Vitamn B_1) is found to be ineffective.

Dropsy

In presence of hypo-potassemia.

Re, Ext Punarnavae Liq—m 60
Potassi Chloridum—gr 15
Potassi Acetas —gr 15
Glucosum —gr 15
Aqua ad 1 OZ.

Mist.

Sig. One dose every eight hours.

Intravenous injection of sucrose—40 to 50 per cent solution 25 to 50 c.c.

Re, Urea—6 Grm.
Syp Aurentii—m 60.
Aqua ad 1 Oz

Mist.

Sig. One dose every four to six hours.

It is useful in absence of retention of non-protein nitrogen.

Intravenous injection of protein hydrolysate—5 per cent of aminoacids with 5 per cent glucose—5o to 200 c.c. slowly every day or alternate days, after skin sensitivity test. In case of children some are in the habit of using 2 to 5 per cent strength of aminoacids with 5 per cent glucose. It is particularly useful in presence of hypoproteinemia. High protein diet.

Re Ammonii Chloridum—gr 15
Syp Rose —m 30
Aqua Chloroform ad 1 OZ.

Mist

Sig. One dose every three hours for two days.

To be followed by intramuscular injection of mersalyl ½ to 2 c.c. with 10 c.c. of distilled water in the morning. It may be injected intraperitoneally after tapping. It should not be used in acute or chronic renal lesion.

Mistura Ferri Acetatis. (Basham s Mixture)

Re, Liq Ferri Perchloridi—m 15
Liq Ammonii Acetatis Dil—m 120
Acid Acetatis Dil —m 15
Glycerinum —m 15.
Aqua ad ½ OZ,

Mist.

Sig. One dose three times a day after meals,

Treat the underlying cause. Diet—High protein, low sodium, well balanced, easily digestable.

With too much restriction of sodium chloride in the diet for a long time may lead to "Salt losing nephritis" with edema. It often comes when mercurial diuretics are used for a long time with sodium restricted diet. It may also come after prolonged use of cation exchange resin.

The following is indicated then—5 per cent sodium chloride—500 to 1000 c.c. intravenously in urgent cases

When sodium is to be restricted the following is used

Cation exchange resin—2 Gm, four to six times a day after meals.

DYSENTERY ACUTE BACILLARY., Dysenteric Diarrhoae and Dysenteric Infantile. Diarrhoea.

This is the commoner type of dysentery Mortality is high in infants, in the old, in the debilitated and in the asylum It is common in the spring and summer months. Management of a case depends on four things—(a) Prevention and control of dehydration (b) specific chemotherapy (c) Diet (d) Careful nursing including care of the food, fingers, flies and fomites.

Sulphonamides in common use for bacillary dysentery are—sulphaguanidine, sulphanilylbenzamide, Phthalyl sulphathiazole, succinyl sulphathiazole Advocated is sulphadiazine for bacterima. Initial—It may be used parenterally (Hughes)

Dose for an adult—2 to 4 Grm according to the height, weight, constitution and stage of the disease. For an average Indian of short stature—2 Gm or 4 tablets form the initial dose then 1 Gm or two tablets every four hours. With this the following alkali mixture should be given.

Re, Sodii Bicarbonas—gr 10
Glucosum —gr 15
Aqua ad 1 Oz.
Mist.

Sig. One dose three times a day with plenty of water

How long the drug to be continued ?

Sulphonamides are to be continued for at least two to three days after the stool is normal Streptomycin—0 5 Gm 4 times a day orally is advocated. There is no good proof that antibiotics are superior to sulphonamides in bacillary dysentery (Hughes)

Dehydration—Orally—Darrow's solution written under children s diarrhoea.

Parenterally—One-fourth normal saline in tap water 5 per cent glucose in normal saline with thiamine hydrochlor ascorbic acid and nicotinamide, Lactate-Ringer's solution etc.

Diet—First three days—Boiled water green cocoanut s water, sugar candy water thin barley water etc. No milk products. Dahi and Lassi (Ghol) contains p-aminobenzoic acid. After three days, albumin water non-residue diet, no vegetables or fruits.

Rest in bed, use of bed pan are imperative

Children—The dose of sulphonamides—one grain per pound of the body weight daily for infants. Or Brunton's formula—Age next birth day/25 of the adult dose when the child is *weak and emaciated. Young s formula is for the normal* weight child.

The drug is to be given every four hours day and night. The initial dose should be double the repeated dosage.

Antibiotics—such as streptomycin, terramycin are also advocated.

Streptomycin Dose—1 g in 3 days in 6 hourly doses. Terramycin—20 mg per pound of body weight daily divided into 6 hourly doeses,

Severe pain in the abdomen Application of warmth Tinc Opii Camphorata—m 1 to 5 every two to three hours for two to three doses. (Strength of morphine—0.05 per cent.,)

In presence of toxemia and hemorrhage, Concentrated antidysentery (Shiga) serum is indicated 50,000 to 100,000 units. *Intramuscularly or Intravenously No bowel wash in the* acute stage,

Dysentary Bacillary —Chronic

Management depends upon two factors.—(a) Treatment of

the infection with chemotherapy (b) Restoration of the normal nutrition.

Sulphanilylbenzamide—4 tablets stat, followed by two tablets three times a day with alkalies and glucose. Succinylsulphthiazole is also used

Rest in bed, Diet—Liquid nutritious diet with sufficient vitamins. These patients are poor in nutrition and hypo-proteinemia is manifested. Protein hydrolysate orally and parenterally Hematinics.

Bowel wash—(In chronic stage)

Re, Sodii Bicarbonas—gr 60

Aqua Destillata—O J

Mft Lotio.

Sig. To wash the rectum. To be follwed by

Re, Argenti Nitras—gr 2 to 8

Aqua Destillata—O J

(Chloride free)

Mft. Lotio.

To be continued till the sigmoidoscopic examination shows the bowel to be normal and stool free from mucus and microscopically free from pus cells and red blood cells.

Dyspepsia, (Functional types)

Any discomfort during digestion that originates from the stomach constitutes dyspepsia,

Atonic type, (Achlorhydria).

Re Sodii Bicarbonas—gr 10

Tinc Nucis Vomicae—m 10

Infusion Gentianae Comp Conc—m 30.

Aqua Chloroformi ad 1 OZ,

Mist.

Sig. One dose twice daily 15 minutes before each meal

To be followed, one hour after meals, by a dose of dilute hydrochloric acid, as written under achlorhydria.

Hypertonic Reflex type. (Hyperchlorhydria) (Langdon Brown). Discomfort is felt when the stomach is empty There is no ulcer

Rc Sodii Bromidum—gr 10
Tinc Belladonae—m 10-15
Aqua Anethi Conc—m 5
Aqua ad 1 OZ.

Mist.

Sig. One dose two to three times a day before meals,

Rc Sodii Bicarbonas—gr 10
Calcii Carbonas—gr 10.
Magnesii Oxidum Ponderosum—gr 5

Pulv

Sig. One powder three times a day One hour after meals.

Two hours after meals—one ounce of olive oil.

Diet—Should contain milk, fat, cream etc. Avoid meat extractives, heavy smoking, alcohol and highly spiced foods. Food should be taken with mind-quiet.

Despepsia. Nervous.

Nervous dyspepsia are of three kinds—(Hutchison)

Psychoneurotic type—Psychotherapy is useful.

Fatigue type—Rest is essential.

Psychogenic type—In hypersthenic individuals. Bland diet, antacids, bromide, belladona are indicated.

Despepsia, Intestinal Carbohydrate

Rc, Taka—Diastase—gr 5
Pancr atinum—gr 5.
Sodii Bicarbonas—gr 5

Pulv

Sig. To be taken *immediately after meals. The patient*

is instructed to take rest for some time after meal to ensure the action of drugs till they are destroyed by the acid of the gastric juice.

Re, Carbo Ligni Activatus—gr 60 120.

Sig. To be taken two to three times a day three hours after meals

Diet—Root vegetables such as—potato onoins etc should be cut down Curds and lactic acid milk are useful.

Ear Diseases of

Ear Ache.

3 per cent of phenol in glycerin—1 Oz. A tea spoonful is warmed and dropped in the aching ear till half the canal is filled up

N B. Dilution with water makes it caustic. Old stuff kept for long should not be used without vigorous shaking as phenol liquid may come to the top and a drop may perforate the ear Phenol glycerin (B P)—Contains 16 per cent of phenol It is too strong for local use It should be diluted with glycerin to 4 to 2½ per cent of phenol before use.

When the ear ache is due to myringitis (acute caturrhal inflammation of the tympanic membrane) or acute supporative otitis media, warm drops of carbolic acid in glycerin (5 per cent strength) to slid by the side of the external auditory canal, till the three-fourths of the canal is filled and retained by a cotton plug. It often gives relief. Surgical treatment is indicated in presence of pus formation

Impacted ceramen in the external ear

Prophylactic—The Indian custom is to put a drop of oil with the tip of the little finger before bathing.

Curative. 1 Instil a drop of ether

2. In a nervous patient the best plan is to instil a

should be given plentifully Bland diet.—high caloric and non-residue. Nutrition should be maintained. Protein hydrolysate—orally and parenterally Blood and plasma transfusion when deemed necessary

3 Care of the mouth—Glycerin Acid Borici—to apply with a cotton swab on the tongue and gum and teeth, Gargle with any one of the following—Very light pink solution of potassium permanganate, thymol—2 per cent in rectified spirit—5 m in an ounce of water before and after each feed.

4 Specific treatment,—

Specific treatment is indicated in presence of toxemia, bacterimia and complications.

In an early case, anti-typhoid serum (containing O and Vi antigen) may be tried in doses of 25 c.c, intramuscularly for four days with usual precautions of serum administration.

In case of failure of the serum therapy chloramphenicol should be used. Dose—Initial dose—2 capsules, 250 mg each. Next one capsule—every three hours till the temperature shows a little decline next it is given every four to six hours. Then it is given two to three times a day Ideal method is to continue chloroamphenicol for two weeks to prevent complications and relapse.

Adjuncts to chloramphenicol treatment.—The patient should get nikethamide, and adrenalin, if necessary atropine, two to three times a day sub-cutaneously In presence of marked leucopenia (e.g 4500 or less of W B C. per cmm), the author gives wholeblood—10 to 20 c.c. or proteolysed liver extract—2 c.c. intramuscularly every day or alternate days till the leucocyte count comes to normal.

Often the patient can ill afford to buy sufficient chloramphenicol to continue. In such condition, typhoid phage, four times a day should follow for four weeks.

5. Symptomatic.—Hyper pyrexia—Ice cap on the head, tepid warm water sponging, per rectal drip—ice cold, normal saline one part and tap water 3 parts.

Tympanitis.—Acid drink should be given.

Re, Acid Hydrochloricum Dil—m 60
Saccharinum Sodium—gr 3
Aqua Anethi Conc—m 15
Aqua ad O J

Mft.

Sig. To sip ad lip.

Diet—should contain skimmed milk, ghol, curds with water etc. Cut down sugar and carbohydrates.

Constipation—Equal proportion of olive oil and liquid paraffin—total 4 to 8 Ozs or equal proportions of glycerin and warm water per rectum,

Restlessness or sleeplessness—

Re Chloral Hydras—gr 10
Sodii Bromidum—gr 10
Aqua Anethi Conc—m 5
Aqua ad 1 Oz.

Mist.

Sig. Two to three times a day

Phenobarbitonum Sodium—gr ½ to 1 two to three times a day

Delirium—Hypnotics as before or phenobarbitonum sodium—gr 3 by intramuscular injection.

Diarrhoea—(Always examine the stool for Entamoeba histolytica)

Acid mixture, control of diet, and specific treatment. If necessary kaolin powder (very finely pulverised)—one tea spoonful three to four times a day if necessary with fine charcoal powder—gr 30 to 60

Bed Sore—Prophylactic—Careful nursing, maintainence of

nutrition, care of the bony points that come in contact with the bed, massage with spirit and dusting of powder (talc, zinc oxide and boric acid)

Very often it is associated with hypo-proteinemia. Oral and parenteral use of protein hydrolysate has given very good result in author's hand.

When the part is red, seal it with tinc benzoin co, When black skin appears, it should be removed and the part dressed with warm sterile saline or with a dilute solution of hydrogen peroxide and dressed with sterile vaseline gauze.

Complications.

Hemorrhage and perforation.—Prophylactic care should be taken against hemorrhage by giving vitamins C and K and perforation. When the patient shows sings of toxemia, his blood should be grouped and every thing kept ready for blood transfusion should occasion demands it.

Ameobic hepatitis—Amoebic infection of the intestine is very common. The author has seen a few cases amoebic hepatitis complicating typhoid fever

Chloroquin diphosphate—0.25 Gm, two to four times a day for 7 to 10 days,

Epileptic disorders,

Idiopathic variety

Care of the patient as regards—diet, work, environment, social and mental adjustments—is essentially necessary

Grand Mal—The following are advocated.

Re, Sodium bromide—gr 15 to 20.
Liq arsenicalis—m 2 to 3
Aqua ad—1 Oz.

Mist.

Sig. One dose three times a day The dose is to be adjusted according to the onset of the fit. It should be given

an hour before the expected seizure when it is known. Continue the drug for 5 to 6 days a week and 1 to 2 days free of the drug Sodium chloride should be restricted in the diet. It is the oldest remedy It is less used now It is often combined with phenobarbitone soluble.

The most commonly used drug is phenobarbitone—Dose—gr ½ to 1½ in tablet form. The tablet should be crushed before administration. Three times a day The last dose at retirement if the fit occurs in the early hours of the morning. Often the following combination is very useful and can be given in a capsule.

Re. Phenobarbitone—0 05 g

Phenytoin sodium—0 1 g

Sig. One capsule two to three times a day (D Williams)

Petit Mal—In general, sedatives make true petit mal worse and stimulants improve it. Amphetamine, dextroamphetamine and caffiene improve it, (D Williams).

Re. Tridione (Trimethadione)—gr 5 (0.3 g)

Sig. Orally 2 to 4 times a day Smaller doses can be given to young children.

Other type of seizure such as psychomotor type.

Re, Phenytoin sodium—gr 1½ (0 1 g) each tablet, Orally three times a day after meals. The daily dose may be gradually increased to 9 grs (0 6 g). In children half the adult dose. The object of increasing the dose is to stop the seizures or toxic symptoms to appear when to stop the medicine. Ketogenic diet is often very useful.

The following advices are useful to the patient.—(Bailey) (i) Avoid or control precipitating factors. (ii) Alcoholic preparations—forbidden. (iii) Reduce fatigue and evniron mental tension. (iv) Have suitable occupation and recreation. (v) Discussion with the patient—personal problem and occupational hazards. (vi) Psychotherapy in selected cases.

Treatment—Select suitable drug or drugs, Change drugs cautiously and gradually Always begin treatment with small doses of drug or drugs. Work upto the optimum level. Adjust medication to the onset of epileptic seizure. Observe the patient frequently

All minor epileptic seizures are not petit mal Do not use a drug with potentially side effects when a safer drug is available and satisfactory The common pitfalls in treatment of epilepsy are—insufficient dosages and too rapid transfer of one medication to another

It is injudicious to shift suddenly from phenobarbital to one of hydantoinates because of the possibility of precipitating a flurry of seizures. It is best to administer full doses of both drugs for several days and then gradually decrease the phenobarbital for 3 to 4 days to the level of dosage desired.

Status Epilepticus—It is a medical emergency

1 Rest in bed. 2 Careful nursing. 3 Oxygen inhalation, if necessary 4. To Control the continuous fits is essentially necessary—The following drugs are advocated—(i) Phenobarbital sodium—gr 6 to 9 (0 4 to 0.6 g) or sodium amytal—0.5 g (gr 7½) in 10 per cent glucose solution 25 ml intravenously followed by 3 to 4 grs (0.2 to 0.4 g) intramuscularly every four to six hours. In an advanced case on the third day of illness, the author intravenously injected 1 g of sodium luminal in 25 per cent glucose solution 25 ml. The patient slept for twelve hours and was free from fits.

(iii) Another drug much advocated is—paraldehyde—5 ml, intramuscularly repeated every 2 to 3 hours until attacks are stopped. (D Williams)

5 Normal saline enema. 6. Rectal drip—normal saline or 5 per cent glucose solution. For peripheral circulatory failure—coramine or nikethemide or adrenalin tartrate

solution—subcutaneously 7 Correct dehydration. 8. Catheter—the bladder with proper precaution every six hours when unconscious, 9 Oral administration of anticonvulsant should be started as soon as the patient can swallow 10 Constant vigilance of the patient is important.

Symptomatic epilepsy—Treat the underlying cause.

EYE DISEASES.

Secretions of the eye, to cleanse with.

1 Normal saline solution (Sterile and luke warm)—OJ

Sig. Take sterile plegets of cotton. One piece is to be dipped in saline. First wash the eyelids and the lid margin Next flush the eyes, the solution is to be dipped in the interangles of the eyes. Close the ears with dry pieces of cotton beforehand. Saline may be dropped from a dropper

2. Acid boric—2% in distillited water Sig To flush the eyes as before diluted by addition of hot water

Infections of the conjunctiva.

Ophthalmia Neonatorum

(1) Prophylactic—After the child is born clean the eyes with sterile normal saline and sterile plegets of cotton Then drop in each eye 1% silver nitrate solution in chemically pure distilled water (Crede's Method), or 10% sulphacetamide solution in distilled water

(2) Curative—When the disease has fully developed

Generally the causative organisms are susceptible to the action of sulphonamides and penicillin.

There are two alternative methods of treating ophthalmia neonatorum,

(i) Somewhat slower method, is the oral administration of sulphonamides.

(ii) Treatment with penicillin locally—gives increasingly rapid results

It calls for more nursing care.

Preliminary steps, common to both methods of treatment —

(a) Admission in a hospital. (b) Isolation of the sick. (c) Smear and culture are to be taken from the eyes for bacteriological investigation. (d) Irrigation of the eyes with half strength normal saline at the room temperature. (e) Lotio atropine—1 per cent to be dropped in the eye if cornea is affected.

Procedure for sulphonamide treatment, after the preliminary *measures are over specific treatment commences.*

Sulphadimidine—one tablet (0.5g) is crushed and is given per mouth with milk or honey Next day half a tablet (Q 025g) to be given every four to six hours, with plenty of warm water sodium bicarbonate and glucose powder

Local Treatment.—Irrigation with warm normal saline, every *three hours in presence of profuse discharge. Generally* discharge ceases. There is no need of irrigation in subsequent days.

One drop of sterile liquid paraffin is to be dropped to prevent sticking of the eye lids. In presence of corneal haze or ulceration, atropine solution—1 per cent, to be instilled every eight hours. *Sulphonamide treatment is to* be continued for forty-eight hours after clinical cure. No sulphacetamide solution should be dropped in the eyes in presence of exudation. It is ineffective in checking a purulent infection. With this treatment swelling of the lids generally subsides within twelve hours after admission, purulent discharge disappears within twenty-four hours.

Procedure with local penicillin therapy —

(1) Instil a drop of penicillin (Strength 10 000 units ... into the conjunctival sac.

(ii) Put the baby in one nurse's lap Another nurse instil a drop of penicillin solution (10,000 unit per mil) every minute for thirty minutes No irrigation is necessary If there is any discharge, wipe it with a sterile piece of cotton.

(iii) At the end of this time there is generally no pus or discharge. But the eye is still moist, lids are still swollen, and the lid margins tends to be sticky The baby is placed in a cot. Next instil penicillin six times at five minutes interval, followed by similar number of instillation at half hourly hourly and two-hourly intervals. This gives a twenty-two hours treatment. Many cases require no further attention.

(iv) In some babies, the lid margins still tend to remain sticky It is advisable in such cases to continue with penicillin at two-hourly intervals until the eye is dry when treatment is carried on for a further twelve hours.

Crystalline penicillin only should be used for making up drops, impure penicillin is likely to cause irritative reaction.

Purulent Conjunctivitis in adults.—Principle of treatment is the same as in the ophthalmia neonatorum Here the oral dose of sulphonamide will be of the adult dose

Mucopurulent Conjunctivitides, (Including Acute Catarrhal Conjunctivitis often due to pneumococcus)—Excessive discharge is washed with irrigation of normal saline. The use—one of the chemicals—as eye drops. Protargol—2 to 20 per cent strength. Generally 4 per cent strength is in common use Argyrol—5 to 25 per cent. Generally 20 per cent strength is used. Both these are non irritating and are silver protein compounds. These eye drops are instilled every eight hours. N.B. If they are continued for a longtime it may produce argyrosis of the conjunctiva.

Sulphacetamide—10 per cent solution may be used as drops. Sulphacetamide—6 per cent eye ointment to apply locally
Sodium sulphadiazine—2 per cent solution to drop. Sodium sulphadiazine—5 per cent ointment to apply in the eyes at night.

Angular Conjunctivitis.

Rc. Zinc sulphate—gr 2
Aqua destillata ad 1 OZ.
Lotio.
Sig. To drop in the eyes every six hours.

Aureomycin and terramycin are also effective as ointment (0·5 per cent).

Acute Virus conjunctivitis.—Epidemic keratoconjunctivitis is endemic. There is conjunctival injection, watery discharge, some photophobia, and often an enlarged pre-parotid node, unilateral if one eye is affected a history of an acute respiratory infection is common. If cornea is involved there is an increase of symptoms.
Treatment—With non-specific measures, Silvernitrate preparation increases irritation There is no response to sulphonamides, penicillin or aureomycin Rapid resolution takes place when chloramphenicol ointment—1 per cent is instilled two hourly for three to four days.

Phylctenular kerato-conjunctivitis—(Modern conception is the phylctenule is an allergic response to foreign proteins of which protein of the tubercle bacilli is the most important.)
Local application—

1 Fine calomel powder to dust—Dip a Camel hair brush in calomel powder Lightly tap this brush. Coarser particles will drop. Next dust the phylctenule in the conjunctiva by lightly tapping the brush.

or

Oculentum Hydrarg Oxdii—to apply with a glass rod twice daily When mercurial preparations are used, iodides should not be given internally

If cornea is involved—apply Oculentum atropinae cum hydrarg oxdii-locally

If catarrhal conjunctivitis is present—Irrigate the eve with normal saline solution and drop 2 per cent mercurochrome solution. Zinc and silver salts are contra-indicated (Reid)

General Treatment.—Improved hygiene Vitamins A and D shark liver oil or cod liver oil with malt, calcium salts, well balanced diet. Where Mantoux Test is positive or systemic tuberculous infection is present, institute antituberculous treatment. Cortisone therapy—either topical application or subconjunctival injection improve the condition Though there is the chance of relapse.

Simple chronic conjunctivitis

Local application.

Re, Zinc sulphate—gr 1 2.
Acid Boric Lotion—2% ad 1 OZ.
Lotio

Sig. *To drop three times a day*

Sterile vaseline to apply at night to the lids to prevent sticking of lids.

Follicular Conjunctivitis.

1 Lotio—Zinc—Boric—to drop in the eyes.

2. Aureomycin—0.5 per cent ointment, to be applied three times daily

Nose and throat conditions are to be improved if found defective General hygeinic measures are to be improved.

Trachoma.

Local Treatment

1 The fornis is painted with 30 *per cent—sulphacetamide* solution daily for a month.

2. To apply locally—6 per cent sulphacetamide eye ointment (B. P) Three or four times daily

3 If cornea is involved, atropine sulphate—1 per cent solution to be dropped three times a day to keep iris dilated.

4 In presence of secondary infection of the conjunctiva, when first seen full doses of oral sulphonamides—3 to 4 days should be given before undertaking expression of follicles and local therapy (Sroraby)

5 Aureomycin—0.5 per cent ointment, to be applied thrice daily is very useful. But pannus is said to be not affected.

Vernal conjunctivitis.—(It is said to be an allergic form of conjunctivitis) 1 Avoid astringent and antiseptic eye lotions and drops.

2. Wash the eyes with 3 per cent sodium bicarbonate solution, kept preferably in ice- 4 to 5 times daily

Lotio acetic acid—(m 3 to 4 in an ounce of distilled water)—
To drop three times a day

3 Adrenaline (1 1000) solution—drop, prevents itching if severe.

4 Antihistaminic drugs—benadryl or pyrebenzamine—50 mg orally three times a day Locally—antihistaminic lotion—antistine—0.5 per cent may be used.

5 Cortisone locally is every useful.

Injuries of the conjunctiva.—(Physical, traumatic and chemical)

Ultra violet ray conjunctivitis. Arc lamp—(Mercury vapour lamp, Carbon Arc lamp etc) conjunctivitis—An attack of acute conjunctivitis may be caused by exposure of the eyes to ultraviolet rays. It may happen if eyes are not protected from exposure to ultra violet rays. It may happen when light is reflected from the snow at very high altitudes. The lids and the conjunctiva may be swollen intensely

Treatment.—Prophylactic—Use of goggles to prevent exposure to ultraviolet rays. Curative.—Cold compress and local anesthetics. For extraction of foreign body Any one of the following local anesthetics may be used in the eyes. —(a) Cocaine hydrochloride—2 to 4 per cent solution. A 4 per cent solution is used to remove foreign body from the cornea. Cocaine dries the corneal epithelium. (b) Butacaine Sulphas 2 per cent solution. Surface anesthesia remains for two hours (c) Holocaine—1 per cent solution. (d) Amethocaine or Pantocaine—0.25 to 1.0 per cent solution. 0 1 per cent solution in normal saline with adrenalin is used for regional anesthesia (e) Nupercaine—0.1 per cent solution or 0.5 per cent as ointment. (f) Procaine hydrychloride—4 per cent solution is used for infiltration anesthesia. (g) Lidocaine hydrochloride for topical and infiltration anesthesia. It is less smarting than cocaine. It possesses slight vasocoustricting power No anesthetic should be administered frequently All the anesthetics have more or less toxic action over epithelium of the cornea and may produce keratitis. (Ghosh).

Chemical Burns—due to acids, alkalies in industry lime. gases etc. These are industrial and household accidents. Method of approach—The patient is allowed to lie down on his back. Plug the ears with cotton Irrigate the eyes with tap water or normal saline, very throughly Remove all the extraneous bodies. There is much pain. To relieve this-

instil a drop of pantocaine. A drop of flourescin solution will reveal the extent of area denuded of epithelium in the cornea.

Treatment—(1) For acids—wash with 3 per cent sodium bicarbonate solution. (2) For alkalies—wash with 0.5 per cent boric acid solution or acetic acid solution or milk. (3) For lime—wash with 5 to 10 per cent solution of neutral ammonium tartrate Undoubtedly it is painful but it diminishes scarring in lime burn. After washing, instil a drop of castor oil or liquid paraffin, which must be sterile. To prevent symblepharon—apply sterile vasiline or boric acid ointment with a glass rod in both fornices, so that they are well packed with the ointment. If cornea is involved, atropine ointment—1 per cent strength should be used. If the damage is severe, hospitalisation should be immediate

Diseases of the cornea.

Infections of the cornea.

Treatment—1 Rest. 2. Warmth 3. Cleanliness. 4 Thoroughly wash with warm boric lotion 2 per cent strength, 5. Atropine sulphate—1 per cent solution to drop. 6. Pad and bandage. *Systemic treatment.—with penicillin parenterally* Where possible, have bacteriological examination of the purulent discharge and use antibiotics accordingly Sometimes it is necessary to inject 0.5 g of streptomycin subconjunctivally with proper precaution and technique.

Keratomalacia—Due to Vitamin A deficiency changes are seen in the conjunctiva, cornea, lacrymal glands, and ducts of the meibomian glands. *It is seen in illnourished babies,* motherless babies, and babies, who get mother's milk defective in quality and quantity due to mother's deficient diet.

Treatment —1 Wash the eyes with normal saline. Often

eserine—1 per cent solution, eye drop is advised 2. Vitamin A—50,000 to 100,000 units by intramuscular injection for at least three weeks. Niacinamide should be given along with this. Diet—should contain plenty of milk, cod liver oil, halibut liver oil, etc. The body should be massaged with oil olive and cod liver oil.

Interstitial Keratitis due to syphilis.—Due to advent of peni cillin therapy in the pregnant syphilitic mother and post-natal treatment of syphilitic babies the number of interstitial keratitis which is a deep form of karatitis in on the decrease. Hutchi son's triad—interstitial kearatitis Hutchison s teeth and deafness due to involvement of the eighth nerve are seen in all untreated late cases. Treatment—1 Atropine sulphate—1 per cent solution to drop in the eye three times a day 2. Use dark glasses. 3 Antisyphilitic treatment—with penicillin—The total dose varies from 6 to 12 million units extending over two to three weeks according to the nature of the case. It should be followed by Bismuth injection. 4 General and hygeinic care of the patient. Well balanced, well vitaminised and mineralised diet. In rosacea kerotatitis, use of cortisone has shown good results. (Riddle) Cortisone in inserstitial keratitis—25 mg of cortisone acetate in 1 mil of normal saline and 1.5 per cent of benzyl alchol added as a preservative. The suspension is used in—1.5 dilution to avoid irritation of the eye. Drops—inistilled—two hourly for first twenty four to forty eight hours, then four hourly and later twice daily as a maintenance dose. (King).

Chronic Simple Blepharitis,

1 Remove the scales and the scales of the eye lids with cotton wool swabs dipping in solution—sodium bicarbonate—14 grs to an ounce.

2. Apply eye ointment of penicillin—2000 units per 1 g (B.P.) with a glass rod at night.
3. General treatment—well balanced diet, correction of errors of refraction if any and general hygienic measures are to be adopted.

Diseases of the Iris—Treatment—1. Local instillation—of atropine sulphate solution—1 per cent, three times a day. 2. Hot boric compress several times a day. 3. Treat the underlying cause or causes.

Glaucoma

Mydriatic group—In older persons—3 per cent ephedrine solution may be dropped. In *early case*—0.25 to 0.5 per cent solution of pilocrapine nitrate should be instilled. One drop of 1 per cent pilocarpine nitrate solution drop is a wise precaution both morning and night to control mydriasis. If necessary it may be combined with physostimnine (0.25 to 1.0 per cent).

Miotic.

(I) Paralytic miotics—Miosis due to relaxation of dilator. Example—Dibenamine and other epinephrine antagonists. Dibenamine sympatholytic and adrenergic blocking agent—Dose—300 mg Intravenously in 500 c.c. of saline. Very useful in acute glaucoma. The result lasts for a few days. It has pronounced systemic effects—precordial distress, notably orthostatic hypotension.

(II) Stimulatory miotics—Miosis due to contraction of sphincter.

(a) Direct stimulants—Examples. Acetylcholine, Methacholine, pilocarpine, carbachol. (b) Indirect stimulants—(enhance physiologic action of acetylcholine). Examples. Physostigmine, neostigmine, dispropyl fluoro-phosphate.

Pilocarpine nitrate—2 per cent solution is generally considered

the maximal concentration which is consistently effective. Its absorption is helped by adding 0.5 to 1 per cent of methyl-cellulose

Dispropyl fluorophosphate is useful in chronic glaucoma in phakic patients.

Strength—0 1 per cent solution. The onset of contraction may be abrupt and violent—causing intense headache and blurring of vision.

Physostigmine seems to bind cholinesterase. Physostigmine salicylate is most commonly used in 0,25 per cent concentration in an oil base. It is seldom used in chronic glaucoma except to control an occasional acute rise in tension. It should be instilled morning and night Psychological adjustment is necessary to ensure good effect (Swan)

Xerophthalmia. (Vitamin A Deficiency)

Treatment,—Prophylactic—Daily administration of Vitamin A —2500 to 5000 units daily Curative—50 000 to 100,000 units intramuscularly and daily

Search for other vitamin deficiency that may accompany this. Diet—High protein and well vitaminised and a well balanced diet. Goat liver to be taken orally

Filariasis—Filariasis is common in certain states. It is often associated with malarial infection While examining a blood-slide for malarial parasite, both micro-filaria and malarial parasite are found,

Prophylaxis—Mosquito-net should be used. Difficulty lies in certain cases, micro-filarias are found in the peripheral blood in the daytime. Curative—The drug advocated is diethylcarbamazine—1—diethylcarbamyl—4—methyl—piperazine (Syn. Hetrazan, Banocide etc) It is issued as the dihydrogen citrate. (Hawking) Dose—50 mg each tablet, two to three

times a day for about three weeks. It diminishes repeated attacks of fever pain and *lymphangitis*. *But it has no effect* on filarial elephantiasis and hydrocele. These lesions are due *to the blockage of lymphatics and not to the presence* of worms. (Hawking). Antimonials and arsenicals are too *toxic* to be used.

Flatulence.

(a) Gastric type.

Re, Acid hydrochloric dil—m 60.
Aqua ad—2 OZ.
Mist.
Sig. To be taken after meals, preferably though a glass tube.

Rc, Tinc cardamom Co—m 90.
Tinc Zingiberis Mitis—m 5
Spt chloroform —m 5.
Aqua ad —1 OZ.
Mist,
Sig. One dose, three times a day in an empty stomach.

(b) *Intestinal Type.*

Carbo Ligni Activatus—one tea spoonful, in an ounce of water To be stirred and taken three times a day

Diet—Cut down carbohydrates and sugar Acid milk and curds. to be taken with meals

In presence of fever turpentine stupe is advocated.

Gall stone (consult cholilithiasis)

Gastric and Duodenal Ulcer (Peptic Ulcer).

The management of an ulcer patient depends on two main principles —(a) Helping the healing of an ulcer (b) Preventing its recurrence

Healing of an ulcer

1 It is better that at the begining of treatment the patient should be at rest in a hospital. 2. Mental rest is necessary Psychotherapy is to be adopted when necessary

3. Diet—The principle is to administer very frequently soft, easily digestable nutritious bland food—which will provide sufficient calories from protein, carbohydrate, vitamins, minerals and small amount of fat in the form of cream. The food will be free from all irritants—mechanical chemical and thermal. Whole milk with a small amount of cream is given—3 to 4 ounces at a time—hourly from 7 A.M to 7 30 P.M The object is to neutralise and buffer the gastric acidity In the obese, skimmed milk may be substituted for the whole milk or milk with cream. This is to be followed for about a month. Next six feedings may be given a day Fruit juice malt, chocolate, boiled rice and potato and fish may be added. Gradually the quantity of food is increased and the frequency diminished.

4 Next in importance is the use of antacids.—Two schools of thought are predominant now

(i) One group (Kirsner)—favors the use of simple calcium carbonate. Dose—2 to 4 g. every hour from 7 A.M. to 7 30 P M It will neutralise the gastric acid and help healing of the ulcer. To control constipation, following calcium carbonate powder magnesium carbonate—2 g may be substituted as often as thought necessary This regimen should be continued till the ulcer is healed completely Then the interval may be increased to 2 to 3 hours. Next once or twice between meals. Calcium carbonate does not produce hypercalcemia. The cost of treatment is cheap

(ii) Another group—(Morlock)—Morlock advocates—half an hour before feeding aluminium hydroxide gel—one to two tea spoonfuls, half an hour after feeding —two tea spoonfuls

N B, Often after the cure of gonorrhoea, watery non-infective urethral discharge is seen.

Prophylactic—Orally penicillin in dose of 100,000 to 250,000 units is advocated, The effect lasts for 2 to 6 hours,

Granuloma Inguinale.

The causative organism is Donovan body

Streptomycin—Intramuscularly—4 Gms a day for 7 to 14 days. Orally—Aureomycin. Terramycin. Chloroamphnicol—Any one of them—500 mg, every six hours for 12 to 14 days. With all precautions against side effects.

Lymphogranuloma Venereum.

The causative organism is a virus.

Sulphadiazine—1 Gm every six hours for 7 to 14 days with plenty of alkali, glucose and water

Antibiotics advocated—Orally—Aureomycin—500 mg six hourly for 3 weeks or more. Terramycin—250 mg six hourly for 3 weeks or more. Surgical measures are advocated in presence of organic defects in the rectum or vagina.

Penicillin, streptomycin and chloroamphenicol are not useful.

Gout—

Gout is a disease of purine metabolism. Treatment of this disease consists of three parts—(1) Management of the acute state (2) Treatment in the interval (3) Treatment in the chronic stage.

Treatment of the acute stage of gout.

1 Rest in bed. Rest to the painful part.

2. *Painful joint—Local hot compresses every three hours.*

3 Diet—Purine free diet. Plenty of water to drink. Citrous fruits. Plenty of vitamin B and C.

4 Specific drugs.

Colchicine is the most potent remedy for the acute attack of gout. But its mode of action is somewhat obscure. It does not help excretion of uric acid. It has no effect in other painful joint diseases. Possible toxicity may be seen with fresh preparation of colchicine when taken in high dose The clear crystalline colchicine should be used exclusively and not the various tinctures, wines, and colchicine containing secret remedies, (Zöllner)

Colchicine tablets are sold in doses of—0 5 to 1 mg (1/120 to 1/60 gr). Initial dose—0 5 mg each tablet, one every hour or two tablets (1mg) every two hours. This dose is to be continued till one of the three things happens —pain is relieved, nausea or vomiting occurs; or a total dose of 7.5 to 10 mg has been taken. (Robinson). The effective dose is between—2 to 5 mg, the toxic one is often above 6 mg. (Zöllner) If diarrhoea sets in, colchicine is to be stopped and a dose of tinc opii camphorata—30 to 60 m (2 to 4 ml) to be taken to stop the diarrhoea, if necessary it may be taken every three hours. When diarrhoea stops, the drug may be begun after a lapse of two days—in dosage, less than that producing diarrhoea. After a course of colchicine treatment, the maintenance dose may be continued—1 or 1.5 mg daily and to be continued, with watch, for at least three weeks. (Robinson)

In presence of severe acute illness or pain, colchicine may be injected intravenously—1 to 3 mg. Initial dose—0.5 to 1 mg. Subsequent doses—0.5 to 1 mg. Intravenously it is very effective. Results are obtained after about 5 to 15 minutes in many cases. (Zollner) The total dose should not exceed 3 mg The drug is irritant to the tissues. In injecting intravenously one must take care that it dose not fall out side the vein.

Phenylbutazone is the next best drug. Initial dose—0 4 Gm.

Subsequent dose—0.2 Gm, every 4 to 6 hours, till pain subsides. It is then followed by the maintenance dose of colchicine. Phenylbutazone cannot be continued because of its toxic effects such as gastro-intestinal irritation, hematemesis, jaundice, agranulocytosis and retention of sodium and water

Next best course is—a combination of corticotropin parenterally with colchicine orally Corticotropin may be given in one of the three ways

(i) Corticotropin—50 U.S.P units in aquous solution— intramuscularly—every six hours till pain is relieved.

(ii) Corticotropin—100 U,S.P units—in gelatin basis—intramuscularly A second dosage is rarely needed after twenty-four hours.

(iii) Corticotropin—20 U.S.P units in a pint of 5% glucose *saline by intravenous drip method over a period of eight* hours.

N B. With earliest sign of return of symptoms, colchicine tablet may be taken. But one should keep it outside the reach of children, as it is a very toxic drug to the children when taken by them.

Sodium salicylate or aspirin—10 to 15 grs (0.6 to 1 Gm) may be given with an equal amount of sodium bicarbonate to relieve pain when excruciating. Another drug is often used in this stage is—tablet codein compound—(containing aspirin and phenacetin, each 3 grs and codeine—gr 1/8 in each)— 1 or 2 tablets.

Treatment in the interval. (Between attacks of gout)

The secret of warding off an attack of gout is to use colchicine in divided dose—1 to 1.5 mg daily—for days or months *together* in cases of patients who get frequent attacks in a year Moderate exercise. Plenty of water to drink. Avoid—

alcohol and strain—physical, mental. Dietetic care should be there. Help excretion of uric acid. Lime juice or citreus fruits are good, Take care of the kidney and the blood pressure. Agent that helps excretion of uric acid—Probenecid (p—[di-n-propyl-sulphamoyl]—benzoic acid) (Proprietory Name—Benemid) It is of low toxicity It helps excretion of uric acid to a great extent. By its selective action. it inhibits the reabsorption of urates from the renal tubles. Dose—0.5 to 1 Gm. Twice daily Initially 0 5 Gm is given is two divided doses daily If the serum urate level is not returned to normal in two weeks, then the dose is increased to 1 Gm twice daily At the begining of treatment alkalies and plenty of fluids are to be taken to prevent sedimentation of urates. The effect of the drug lasts as long as it is taken. So it should be taken indifinitely It so happens some times that an acute attack of gout occurs when probenecid treatment is started and for this colchicine will be used to control.

N B The action of probenicid is destroyed by the administration of aspirin or other salicylates, (Robinson)

Untoward effects of probenecid—drug rash gastro-intestinal disturbances, renal colic and urate calculi.—The latter two may be aborted by administering a large quantity of fluid and increasing the urinary outflow

Treatment ot the chronic stage

The same principle of treatment holds here. Colchicine is for the acute exacerbation and to be continued for a long time with a maintenance dose. If necessary parenteral use of corticotropin is advocated Short course of phenylbutazone —0.2 Gm, three to four times a day is also advocated. For chronic gouty arthritis, physio-therapy and orthopedic, surgical help may be necessary

Prophylactic use of colchicine *to prevent an acute attack of gout*.—

Cochicine in dose of 0.5 to 1.0 mg is used as before, with the *slightest inkling* and the attack is averted. (Gutman). Every gouty patient should carry a few colchicine tablets in his pocket. But a large stock should not be kept, because of its limited stability To prevent post-operative attacks of gout, in a patient with a gouty diathesis. when surgical inter-ference is imperative, the patient should take colchicine tablet—0.5 mg upto three times a day for three days before the operation and for three days after the operation (Zöllner)

Hematemesis (and malena)

The common causes of hematemesis are—ulcers of the stomach and duodenum, cirrhosis of the liver etc.

Hemorrage in peptic ulcers. (Rossetr and Stiphenson)

The problem of management is divided into two groups from the stand—point of the patient.—(i) The patient is in shock (ii) When the patient is not in shock.

When the patient is in shock:

1 Transfusion of blood after proper grouping. Plasma is less *advocated due to dangers of infectious hepatitis*. It may be used as a last resort.

2. When they are not available—protein hydrolysate or plasma expanders such as dextran, *polyvinylpyrrolidone etc* are advocated to tide over the emergency

When the patient is not in shock—Bleeding peptic ulcer treat ment is adopted as follows —

(a) If the patient is vomiting—cracked ice or iced water represent water ingestion and *may initiate vomiting*. A piece of gauze soaked in iced water may be used to clean the

mouth. Sodium amytal—grs 3 (0.2 g) by intramuscular injection, if the patient cannot take it orally. No morphine should be given. Morphine produces vagal stimulation which results in gastric hypersecretion and hypermotility. One to two hours after vomiting has ceased, cautiously give him a few ounces of milk. If this is tolerated, half an hour after give him three ounces of milk with calcium carbonate—gr 13½ and magnesium oxide—gr 1½. If no vomiting occurs in an hour 'Bleeding Ulcer Diet' is started.

(b) When no vomiting is present, the following Bleeding Peptic Ulcer Treatment Schedule Commences.

(i) Bed rest and quiet for ten days.

(ii) Modified Mulengracht regimen of feeding every two hours, neutralization being achieved by adding calcium carbonate—0.9 to 1.8 g and magnesium oxide—0 1 to 0.2 g to the milk in feeding.

Increase magnesium oxide if necessary to prevent constipation or stop magnesium oxide, if diarrhoea appears.

To diminish gastric secretion, tinc belladona—1.5 c.c. every six hours or hypodermically atropine sulphate—gr 1/60 if vomiting is present. This will continue for four days. If every thing goes well change to 45 c.c. of a mixture of aluminium hydroxide gel (4 parts by volume) and milk of magnesia (1 part by volume) for bed time, and every two hours throughout the night when bleeding has ceased. Abstinence from tobacco is enforced.

Advantage of use of fresh tinc of belladone—It decreases the amount of antacids necessary to secure neutralization.

Haemoptysis.

1 Treat the underlying cause. (Common causes are—according to age—Young age—mitral stenosis, Young adults—pulmonary tuberculosis. It may affect all ages. Middle ages—

Bronchiectasis and aneurysm of the aorta leaking into the bronchi, Advanced age—malignant disease of the lungs).

2. Treatment of haemoptysis due to pulmonary tuberculosis. (i) Absolute rest in bed. (ii) If the amount of blood lost is small in quantity assure safety to the patient. It will quiet down the patient. (iii) Pieces of ice to suck (iv) In presence of violent cough—morphine—gr 1/8 and atropine sulph—gr 1/200 subcutaneously Too much morphine abolishes cough reflex and helps dissemination of the disease. (v) Diet—Luke warm—milk, barley and sugar. Orange and sweet lemon juice. (vi) In severe cases artificial pneumothorax is needed. (vii) Drugs that are given—calcium gluconate—10 per cent solution—10 mls with ascorbic acid—200 to 500 mg, intravenously and slowly Vitamin K—5 to 10 mg intramuscularly in presence of low prothrombin level. (viii) In severe bleeding blood transfusion in selected cases.

Haemorrhoids. (Treatment discussed here is palliative and non-surgical)

Treatment—Prophylactic and palliative.

Prophylaxis—There is often predisposition to piles, running in some families, The following prophylactic measures are suggested for them.

(i) Abdominal exercise to improve the circulation of the liver

(ii) There should be no straining in defecation.

(iii) Plenty of water to drink in between meals.

(iv) Diet should contain plenty of fresh vegetables, boiled green papya *(Carica papya) or its ripe ones,*

(v) Use of laxatives—such as pulv Isphagula, oil olive, preparation of liquid paraffin and agar agar or magnesium hydroxide, sarbat prepared of green burnt Bael fruit or ripe bael fruit with a little milk and sugar or molasses.

Palliative treatment consists of two parts—(i) General, (ii) Local.

General Treatment.—1 Try to improve the condition of the liver so that there is no congestion and the haemorrhoidal plexus of veins are not kept distended. 2. Keep the bowels regular and motions soft. If necessary cascara evacuant—30 to 60 minims in an ounce of water at bed time.

3 Treat thoroughly amoebiasis—hepatic and intestinal forms.

4 Avoid constipating diet. 5 Alcohol is interdicted.

Local Treatment. The watch word of local treatment is cleanliness of the anal opening after defecation, if necessary with soap and water The most important is the injection treatment of piles.

What type of piles are suitable for local injection treatment ? They are internal and small piles—not complicated by prolapse, infection, edema, protrusion and thrombus formation and fibrosis. When piles are confluent, no local injection treatment be adopted. Choice of solution for injection—5% phenol in almond oil with menthol—gr 2 per ounce. Dose—2 to 10 minims (0 12 to 0 6 ml) By direct injection into the pile. Technique—The needle should be sharp, bright and wide caliber The syringe with fingers rest on the nozzle Err on the side of giving a small quantity The needle should pierce the center away from the dentate margin. It should penetrate about 1/5 of an inch deep with the special syringe.

At a time one to three piles are injected according to discretion of the physician. The object is to produce fibrosis with a chemical irritant. Injection is repeated every one to two weeks. Pain and discomfort if any may be treated with oral administration of codeine compound tablets (Veganin)—one to two at a time Administer a dose of laxative at night such as an ounce of emulsion of liquid paraffin and magesium hydroxide. After defecation the part should be washed with a weak antiseptic lotion such as dettol or weak (just pink)

solution of potassium permanganate. In many case there is a relapse.

Fissure Anal, (A recent fissure is amenable to local treatment. A chronic fissure is amenable to surgical treatment).

1 The patient should be in the recumbent position.

2. *The motions should be kept soft and pulpy so that the* sphincter may not be too widely opened during defecation nor the ulcer exposed *to the friction of a large or hard motion.*

3 Local application—after cleaning—albumin coagulatig agents—silver nitrate—(30 grs to an ounce) (Hilton) or pure carbolic acid. They should be applied with a wooden probe The other application is—collosol ichthyol with a wooden probe, in alternate days till the fissure is healed. 4 When pain and sphincter spasm are present, an ointment containing local anesthetic is indicated.

Re, Cinchocainae Hydrochloridum—gr 10
(Nupercaine. Ciba) or Dibucaine hydrochloride (U.S.P.)
Oil Olive —m 240.
Ung Zinci Oxidi ad—2 Oz.

Misce,

Sig. It should be warmed and introduced with a finger in a finger stall, the patient is askod to strain when one finger will be introduced.

5 When the pain is not relieved with local treatment or the pain in increasing, Nupercaine in oil (0.5 cent in sterilire almond oil—(Ciba & Co. or Allen and Hanburys) by a deep —5 c.c. intramuscular injection into the sphincter advocated. (Gabriel)

Pruritus Ani.

Treatment is in the following lines —

1 *Hygienic*—Cleanliness is to be observed after defecation.

If necessary the part may be washed with soap and water Nails of the hand should be paired

2. Dietetic—avoid highly seasoned food and alohol. Lacto-vagetarinian diet. Butter milk. Acidophilus tablets.

3 Medical treatment—systemic treatment of the underlying cause if any such as—thread worm, fungus infection, systemic diseases. and diseases of the urogenital tract if any Avoid constipation. Vitamin deficiency and anemia should be treated in the usual way

4 Local treatment in the early stage.—The part—peri-anal skin should be thoroughly cleaned with soap and water and dried with a soft sponge. The following lotion may be applied then—

Re Pulv creta gr 180.
Pulv Calaimine preparata—gr 180.
Liq Calcis —m 180.
Glycerin —m 120
Aqua Rose ad 6 OZ.

Misce.

Sig. Apply the lotion with cotton Allow the lotion to dry up.

Next apply the following dusting powder

Re, Acid Boric—1 part
Pulv Amyli
Pulv Calamine—a a 2 parts.

Pulv

Internally give the following at bed time.

Re, Sodium phenobarbital—gr ½
Acetyl salicylic acid—gr 5

Pulv

If there is no relief the following ointment may be tried

Re, Acid Boric—gr 60.

Tinc Benzoin Co—m 60

Lanolin ad 1 OZ.

Ung

or better 1 to 2 per cent hydrocortisone ointment.

Sig. To be continued for 10 days. Local anesthetics, antihistamine—are not effective. (Ed. J.A.M.A.)

In chronic stage—application of silvernitrate—2 to 3 per cent in Spirit Etheris Nitrosi—once a week is advocated. Hypnotic should be given at bed time. In presence of fungus, the following ointments are recommended —

Re, Sulphur Precipitate—gr 30.

Acid Salicylic —gr 30.

Vaselin Alba ad—1 OZ.

Ung.

Sig. To apply locally

Re, Acid Salicylic—gr 15.

Hydrarg Ammoniata—gr 15

Liq Picis Liq —m 20.

Paraffin Molle ad ½ OZ.

Adepis Lanae ad ½ OZ.

Ung.

Sig. To apply locally To be continued a week after the clinical cure.

In resistant cases physiotherapy is advocated.

Pruritus vulvae and pruritus ani at the menopause. (Mclaren). The treatment should be continued for a month or two Principles of treatment —1 Reassurance to the patient that it is not a serious malady 2. Sedation—phenobarbitone—gr 1 at 6 P M. It promotes sleep and dulls down intense pruritus. 3 If the vulva be kept dry with calamine lotion and 1 per cent phenol be added to this, the excoriation and hyperhidrosis so common in this condition may regress.

If the skin of the vulva becomes cracked and dry the following oily preparation is good.

Re, Calamine—gr 40 (2.6 g).
Lanolin—gr 30 (2.0 g)
Olive oil—½ Oz. (14 ml)
Lime water—1 Oz. (28.5 ml.)
Misce.
Sig. To apply locally twice daily

4 Rest in bed is often necessary to achieve a cure.

5 Oestrogens by mouth or in ointment are best avoided for pruritus. (Mclaren)

Headache.—Headache mechanism—The following structures give rise to sensation of headache—(Abnormal stretching of the intracranial blood vessels (such as cerebral arteries; dural arteries, venous sinuses etc) (b) stretching of the basal dura (c) stimulation of the sensory cranial nerves. (Symonds and Wolff). Headache (excluding true neuralgia) may be grouped as follows (Barker modified).

(1) Toxic and toxic-infectious headache.
(2) Headache due to circulatory causes
(3) Headache due to organic diseases involving the structures of the head (brain, meninges, skull, organs of special senses and scalp).
(4) Headache due to reflex causes.
(5) Headache accompanying neurosis and psychosis.
(6) Migraine.
(7) Headache due to traumatic cause.

Diagnosis—Correct diagnosis is brought about by taking careful history headache—its kind, location, radiation, time of onset, its acompaniments and thorough pysical, ophthalmoscopic & labortory examinations

Treatment—1 Headache due to sinusities—(a) Application

If there is no relief the following ointment may be tried,

Re, Acid Boric—gr 60.

Tinc Benzoin Co—m 60

Lanolin ad 1 OZ.

Ung

or better 1 to 2 per cent hydrocortisone ointment.

Sig. To be continued for 10 days. Local anesthetics, antihistamine—are not effective. (Ed. J.A.M.A.)

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Acid Salicylic —gr 30

Vaselin Alba ad—1 OZ.

Ung.

Sig To apply locally

Re, Acid Salicylic—gr 15

Hydrarg Ammoniata—gr 15

Liq Picis Liq —m 20.

Paraffin Molle ad ½ OZ.

Adepis Lanae ad ½ OZ.

Ung.

Sig. *To apply locally* To be continued a week after the clinical cure.

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Diagnosis—Correct diagnosis is brought about by taking careful history headache—its kind, location, radiation time of onset, its accompaniments and thorough pysical ophthalmoscopic & labortory examinations

Treatment—1 Headache due to sinusitis—(a) Application

of mustard poultice (made with cold water) for five minutes *on the forehead.* (b) *Subcutaneous injection of catarrhal* immunogen—Dose—0 1 to 0.5 c.c.

2. Headache due to error of refraction is corrected by suitable glasses.

3 Headache due to glaucoma—is relieved by application of leeches on the temple, saline purgative instillation of phosostigmine or *pilocarpine and if necessary by trephining.*

(a) Meningeal headache—is relieved by lumbar puncture. Always measure the pressure of the cerebrospinal fluid by spinal manometer *before and after withdrawl of the fluid.* Headache following lumbar puncture is relieved by lying down and by intravenous injection of normal saline solution, Codeine phosphate or sulphate orally or *parenterally useful,* farther management of headache due to meningitis and sub arachnoid hemorrhage.

(b) Codeine phosphate or sulphate—orally or parenterally—is useful for the management of headache caused by *inflammation of cranial structures, as in meningitis and sub*-arachnoid hemmorrhage, or by space-occupying intracranial lesions. (Friedman and Merritt).

4. *Headache due to subarachnoid hemorrhage—is relieved* by lumbar puncture and intravenous injection of 50 per cent sucrose

5 Headache due to *different types of intracranial infections*—Use of the specific remedy against the particular infection.

6. Headache due to uremia and lead poisoning—Intravenous *injection of 10 c c. of 10 per cent* calcium gluconate solution

7 Headache due to hypertensive encephalopathy—Use of hypotensive drug (reserpine), administration of saturated solution of magnesium sulphate—6 to 8 ounces per rectum, if necessary withdrawal of 240 to 500 c.c. of blood from the vein.

8. Migrainous headache—Subcutaneous injection of ergotamine tartrate—gr 1/250 to 1/125 every 8 to 12 hours or intra venous injection of 0.5 mg. or 1 mg orally give prompt relief. (Stewart)

9 Headache associated with neurosis is treated by taking careful history and treating the underlying cause by sympathy firmness, assurance etc. If necessary by psychoanalysis

10. Headache due to neuralgia—Acetylsalicylic acid is very good when given in solution. Not so good when given as a compressed tablet.

Re, Aspirin—gr 10
Sodium bicarbonate—gr 10
Aqua ad—1 OZ.
Sig. To be taken when needed.

or

It may be given in the following way—

Re, Acetylsalicylic acid (powder)—gr 15
Phenacetin (Powder) —gr 3
Caffeine citrus effervescence powder—gr 60
Water ad —1 OZ.
Misce.

Sig. To be taken 10 minutes before the onset of head ache when the time is known. A tea spoonful of liquor brandy may be added to this mixture. (Horder)

The following powder is often useful.

Re, Aspirin—gr 2.
Phenacetin—gr 2.
Caffeine—gr ½
Codeine phosphate—gr ¼
Pulv

Sig. One powder every eight hours. Phenobarbitone sodium—gr ¼ to ½ may be added to this powder

11 Headache in malarial fever is relieved by a dose of sodium

Tinc digitalis—1 ml measured with a minim glass and mixed with an ounce of water immediately before use, every three to four hours. The fresh bottle should be opened and used. Buy a fresh phial of 4 OZ tincture, B P or I. P standerised, prepared by a reliable and dependable firm.

Next in common use is Pulv digitalis folia—gr 1½ (0 1g) three times to six times a day in the first 24 hours according to the merit of the case. 1 ml of the tincture digitalis is equal to 0·1 g of the pulv digitalis folia. The following are also advocated—digoxin – 0.25 mg, three times a day digitoxin—gr 1/600 (0.1 mg) three times a day Lanatoside C—0.5 mg three times a day

How long digitalis preparation should be continued ?

Digitalis preparation should be continued to the physiological limit. This limit ends when there are toxic symptoms involving the stomach, the pulse, the kidneys and the nervous system. Complete digitalization is manifested by the general improvement of the circulation, general condition, increase out put of the urine. The maintenance dose of the digitalis pre paration should be found out by trial and error and be continued as long as necessary

Mecurial diuretics—Preparation of the patient for mecurial diuretic—Administer ammoium chloride—gr 5 each tablet two such tablets, three times a day for two days prior to the use of mercurial diuretic.

Mersalyl—should be injected 0 5 ml in 10 c.c. of distilled water intramusculary in the gluteal region in the morning and the result is watched. Intravenous injection may produce death, so intravenous use has been deleted from the pharmacopia. Measure the quantity of urine. This small dose is meant for detection of the sensitivity of the patient. If it is alright, the next dose may be given three to four days after in 1 to 2 ml doses. Chlorothiazide is advocated in doses of 500 mg daily in divided

doses. It is very useful when associated with hypertension. (Wilkins)

Anticoagulants reduce the incidence of embolic phenomena They should be used with caution

Sleeplessness—Hypnotics used generally are—phenobarbitone, bromide and chloral hydrate, and paraldehyde. Phenobarbitone sodium or luminal—gr ½ to 2 grs at bed time Re Sodium bromide—gr 15 Chloral hydrate—gr 10—20 Aqua ad 1 OZ. Sig To be taken at bed time Re, Paraldehyde—m 60—120 Syp Aurantii—m 60. Aqua chloroform ad 1 OZ Sig To be taken at bed time. If necessary sodium luminal—gr 3 to 5 may be injected intramuscularly

Purgative—Blue pill—gr 4 To be taken in the evening. To be followed in the next morning by a dose of magnesium sulphate solution—240 grs in an ounce of aqua menth pip

Treatment of the underlying cause is essential

Chronic Cor Pulmonale. (Pulmonary heart,disease)

McMichael advocates ouabin and strophanthin in treatment of cardiac failure secondary to chronic lungs diseases. Venesection and digitalis are not to be used as they lower venous pressure. Rise of venous pressure is nature's attempt to supply proper amount of blood. This mechanism should not be disturbed Others think rise of venous pressure is due to retention of Sodium and water

Extra-systoles, (Premature contractions)

1 Sodium bromide—gr 15 to 30 in an ounce of peppermint water one to three times a day

2. Potassium salts—phosphate or acetate—in 15 to 30 grs

in an ounce of peppermint water three to four times a day It is also useful when extra-systoles are due to digitalis intoxication.

3 Common causes should be avoided—anxiety exhaustion, tobacco smoking, flatulence, etc. Digitalis intoxication is one of the commonest causes of premature contraction

4 Reassurance to the patient is useful Sedation, when sleep is disturbed.

Auricular-fibrillation.

Treat the underlying cause. Digitalis therpy as written under *congestive cardiac failure. If this therapy fails, quinidine* sulphate should be given. The following rule is advocated—gr 1½ after breakfast in the first two days. Then to be given twice a day Gradually increase to four times a day and watch the result.

Auricular flutter

Digitalis and quinidine therapy as in case of auricular fibrillation.

Tachycardias—auricular and ventricular—Procaine amide (Pronestyl) 250 to 500 mg every three hours, orally till 1 Gm is given. Orally toxicity is less. On long continued use agranulocytosis may develop.

Digitalis is contraindicated in ventricular tachycardia.

Heart Block.—

1 Treat the underlying cause,—such as rheumatic fever diphtheria, gout, syphilis etc.

2 Ephedrine hydrochloride—gr ½—1 three to four times a day Adrenalin tartrate solution (1 1000)—2—8 minims by subcutaneous injection. Atropine sulphate—gr 1/100 subcutaneously

In Stokes—Adams syndrome—adrenalin and atropine indicated. But adrenalin is contraindicated in presence of ventricular fibrillation.

3 Iodides in presence of syphilis, benemid when there is gouty deposit in the Bundle of His. (Prinzmetal and Kennamer)

Hiccough.

1 Re, Hydrarg Subchlor —gr 1/8
Menthol —gr 1/8
Sodium bicarbonate—gr 2.
Chloretone —gr 1

Pulv Send eight such.

Sig. One podwer every half an hour

2, A powder containing sodium bicarbonate—gr 10 and menthol—gr 1/8. Sig. To be taken with a cup of ice cold water every hour for three such doses.

3 Spiritus Aetheris Compositus (B. P C.) Hoffmann s Anodyne.—60 to 90 minims in an ounce of ice cold water once. 20 to 40 minims in repeated doses.

4, Pressing the supra orbital nerve, pulling the tongue often stop hiccough.

5 Subcutaneous injections of ice cold sterile distilled water 1 to 2 c. c, on the epigastrium.

6 Gastric lavage with dilute solution of sodium bicarbonate ½ to 1 percent.

8 An effervescent mixture is often successful,

Re, Sodium bicarbonate—gr 30	Re Acid Tartaric—gr 22½
Syp Simple —m 30	Aqua ad—1 OZ.
Aqua ad —1 OZ.	

Sig. Mix one dose of each and take while effervescing. one dose every three hours for three doses.

9 Treat the under lying cause.

10. Benzyl benzoate—A 20 per cent solution in alcohol. 20 to 40 min in an ounce of water or milk. (Macht)

11 Any one of the following may be given per rectum.

Re, Sodium Bromide —gr 15
Chloral hydrate —20
Aqua destillata ad —1 OZ.

Re, Chloretone—gr 60.
Olive oil ad—1 OZ.

12. Morphine—gr 1/8 to 1/3 by subcutaneous injection.

13 *Inhalation* of amyl nitrite Capsule often relieves when repeated intramuscular injections of chlorpromazine (largactyl) 50 mg each failed.

Hyperpyrexia

1 Treat the underlying cause

2. Water therapy—Application of ice cap on the head,. Do not keep the ice cap in one place for a long time. Ice pack, cold pack, tapid warm water sponging.

3. Iced sterile normal saline by drip method per rectum. Take a bottle of sterile normal saline when cold, put it in a bucket of ice. When the bottle is ice cold to the touch, the saline is ready for use, If necessary adrenaline tartrate solution may be used with it.

4 Coal tar derivatives.

Phenacetin—gr 5 in powder from. One powder every three hours. Not more than three powders. If the temperature falls to 101 F stop the powder

Re, Cryogenine —gr 1
Sugar of milk —gr 5

Pulv

Sig. One powder three or four time a day Similar precau tions are to be taken as before.

Hysteria.

The symptoms may be motor sensory and visceral. Treatment is psychological, *The following mixture is often used.*

Re, Sodium bromide—gr 15—20.
Tinc valerian ammoniata—m 30 to 60
Aqua chlorofrom ad 1 OZ.

Mist.

Sig. One dose three times a day

Re, Menthol—valerianate—m 10

Aqua ad —1 OZ.

Mist:

Sig—One dose three times a day

Hypertension

Hypertension generally means—persistent rise of blood pressure—systolic and diastolic—above the normal. There may be rise of systolic blood pressure as in thyrotoxicosis. Modern teaching attaches great importance to the diastolic blood pressures. When it reaches 100 mm of Hg, irrespective of age physiological limit ends and the pathological limit commences. When the diastolic blood pressure is persistently 110 mm of Hg and the systolic one is 160 to 180 mm of Hg or above it is known as hypertension. When the diastolic blood pressure remains constantly at 120 mm of Hg or above malignant hypertension commences.

Death due to coronary artery disease, hypertension leukemia and cancer of lungs are on the increase. Hypertension is of two types (i) Essential hypertension. (ii) Hypertension secondary to other causes such as chronic kidney disease etc. In the second variety treatment of the underlyng cause is essential.

General principles of management of hypertesion

1 Weight reduction in the obese.

2. Moderation in life—such as in diet, habit and activity

3 Psychotherapy when needed.

4. Diet—Rice, milk, banana and sugar containing minimum amount of sodium chloride. 0·5 g of tablet of table salt may be allowed daily In the hot summer perspiration is great, 1 g of sodium chloride may be allowed.

4 Sedation—phenobarbital (Dose—½ to 1 gr) Begin with a small dose. chloral hydrate (Dose—gr 10 to 20). Paraldehyde—(dose—2 to 8 ml) It may be given with cracked ice or with *syrup aurantii, to hide its taste.*

6. Use of anti-hypertensive drugs from time to time.

7 One should remember that we are to treat a patient as a whole Treatment should be individualised.

Anti-hypertensive drugs.—The drugs in common use are—Rauwolfia Serpentina—whole root and the active principle—reserpine pentapyrrolidinum ("ansolysin" 'ansolysen retard) phthalazine (Apresoline") hexamethonium compounds.

The most popular and the first drug to prescribe is—Rauwolfia Serpentina—whole root extract (from a reliable manufacturer) Next is reserpine. One should stick to one preparation and have a control over it. It applies to one in the first few years of practice. The author treated a case of malignant hypertension of renal origin with marked retinopathy The patient was a mechanic aged 36 years. His blood pressure was—200/130 mm of Hg. He was put on whole root extract (Serpex. B I.) in tablet form—4 mg each—one tablet three times a day Tablets were crushed before administration Gradually—he was given two tablets, four times a day In eight weeks time his blood pressure fell to 135/85 mm of Hg with marked improvement of retinopathy

Reserpine—Dose. 0.25 to 0.5 mg three times a day It is useful in neurotic hypertensives.

Drawback of rauwolfia—stuffiness of the nose, diarrhoea depression etc. It should not be given to patients with previous history of depression. In many hypertensives, rauwolfia is used along with phthalazine, or ansolysen or hexamethonium compound or chlorothiazide.

Platt used "ansolysen retard" in a group of patients (fifty in

number) with hypertensive retinopathy Ansolysen retard is pentapyrrolidinum bitartrate the retard solution containing in addition polyvidone solution with 0.5 per cent ephedrine hydrochloride to delay absorption. The dose he used—Initial dose—2.5 mg, subcutaneously twice daily The dose is to be increased gradually until significant reduction of blood pressure is achieved. It takes about three weeks. Most patients require dose—10 to 20 mg twice daily as their maintenance dose. When this dose was reached no further increase was necessary The result was blood pressure became normal and the retina became normal. Drawback of the drug—postural hypotension on standing up several hours after the injection

Type of hypertension. Suggested Drug Treatment. (L. A. Erf)
(Judiciously used with other techniques—bleeding etc)

Type of hypertension	Suggested Drug Treatment
1 Mild hypertension (Diastolic pressure 100 to 120 mm of Hg	Rauwolfia tablets for at least three months.
2. Moderate hypertension (Diastolic blood pressure 120 to 140 mm of Hg)	Rauwolfia tablets plus veratrum or hydrazaline or methonium.
3 Fixed hyperstension (Diastolic pressure over 120 mm of Hg)	Rauwolfia tablet plus methonium (penolinium)
4 Malignant hppertension with papilloedema	Rauwolfia tablets, pentolinium and hydrazaline and/or chlorothiazide (Wilkins) Hexamethonium (ganglionic blocking agent) by subcutaneous injection several times a day
5. Hypertensive Emergency	Methonium and reserpine —intravenously and with caution.

Hexamethonium compounds—hexamethonium bromide—initial dose—5 to 15 mg. and the dose is slowly increased to—*25 to 50 mg. By subcutaneous* or intramuscular injection, six hourly watching the result. Initial dose should not exceed 25 *mg. The patient must rest in bed. The* fall of blood pressure remains for about two to three hours.

Phthalazines—1—Hydrazinophthalazine (Apresoline)—is used orally Dose—10 to 50 mg every six hours. Side effects—*headache, tachycardia, palpitation.*

The combination of hexamethonium and apresoline—In small *doses have been found useful in selected cases.*

Veratrum derivatives—"Veriloid —Dose—2 to 10 mg. every *six hour Side effect—severe nausea and vomiting. In selected* cases, below 50 years, sympathectomy is advocated. (Smithwick).

Sedation—The following hypotics are generally used—chloral hydrate—*gr 10 to 20* paraldehyde—*4 ml* with syrup auratii——4 ml, in an ounce of water at bed time In labile blood pressure—phenobarbital—gr ½ to ½ two to three times a day with reassurance.

Causes of death in hypertension are often due to—myocardial infarction hypertensive cardiac failure, cerebro—vascular accidents and renal failure. In short—"Disorders of the Pump, the Tube or the Filter" Cardiac failure and retinopathy are often amenable to drug therapy

Hypothyroidism.

In young children and in adults with hypothyroid condition—1 gr of fresh supply of thyroid preparation a day divided into two doses. In the adults—fresh thyroid gland preparation—2 grs a day—divided into two doses To be continued for a *long time. None of the thyroid galnd preparations should be* dispensed after three months. Fresh thyroid galnd prepara

tion is the best. Fresh thyroid gland preparation (Thyroideum Siccum) is the best. (Jackson)

Impotence.

Impotence due to organic causes and also due to systemic diseases are not dealt here. Impotence occurs in an otherwise healthy individual often due to mental upset. When this is remedied, impotence is gone In elderly patients, impotence may come on due to defective secretion of the testicular hormone. In such cases either injection of testosterone propionate—10 to 25 mg intramuscularly every day or alternate days affords relief Often 5o mg dose may be necessary Every case must be judged on its own merits. Perilingual administration of methyl testosterone—5 to 15 mg daily affords relief. In mild cases—5 mg daily suffices. In severe cases both oral and injection therapies are useful. Methyltestosterone, in bigger doses, if continued for a long time may produce jaundice. Strychnine—gr 1/100 to 1/60 daily in addition to high protein diet is a good adjunct.

Insomnia.

Insomnia may be due to—

1 Environmental factors—such as—excessive—heat, cold light, noise darkness, unaccustomed bed etc.

2. Physical—

(i) Discomfort—such as fever delirium, dyspnoea, cough pain pruritus, frequency of micturation etc.

(ii) Infections—Typhoid feaver meningitis, pneumonia etc.

(iii) Toxic causes—

(a) Originating from bad habits—such as excessive tobacco smoking, tea, coffee, and alcohol drinking etc.

(b) Chronic kidney disease.

(iv) Organic disease of—

(a) Nervous system—Tumour of the brain, cerebrospinal syphilis, post-encephalitis etc.

(b) Cardio-vascular system—hypertension, congestive cardiac failure etc.

(c) Gastro-intestinal system—cirrhosis of the liver gastri. flatulence, carbohydrate dyspepsia *of the small intestine etc.*

3 Mental condition—

(a) Psychoneurosis—such as, anxiety neurosis, obsessional type of psychoneurosis etc.

(b) Psychosis—schizo-phrenia, manic-depressive etc.

General management of insomnia may be presented as follows—

Careful anamnesis, thorough physical examination and sympathetically probing into the mental condition will help accurate diagnosis and the real cause of insomnia in most of the cases.

Treatment of cause.

Sleeping room and bed are to be made as comfortable as possible to the liking of patient. High temperature in fever may be controlled with tepid warm water sponging and ice cap on the head. Infections are to be treated with specific remedies. Dry cough may be treated with a linctus or syrup codiene phosphate or by *administering a tablet of a cardiac* glycoside in presence of congestive cardiac failure in its early stage. Pruritus ani may be relieved by the local application of ½ to 1 per cent *hydrocortisone ointment Itching in* and arround the anal opening due to thread worm may be relieved by the local application of a 2 per cent *hydrarg ammoniata* ointment Dyspnoea may be relieved by a back rest and if necessary by inhalation of oxygen Asthma may be relieved by injection of adrenalin tartrate or malate and if necessary by slow infusion of aminophyllin in glucose solution.

Pain in dry pleurisy may be relieved by strapping.

General hygenic measures—

(a) Diet—Avoid highly spiced and late meals at night. Some insufficient diet in the evening meal is often the cause of insomnia Among the article of diet, milk is the most soothing to the nervous system In fact the Russian obstetrician Stroganoff advocated milk diet in the treatment of eclampsia. His statistical figure of percentage of death in eclampsia is lowest in the world. Curd is advocated in the diet as it stops fermentation in the small intestine in the elderly patients. Dyspepsia should be treated.

(b) Physical measures—Regulated physical exercise in any form suited to the individual taste is wholesome to some individuals "Walk a mile after supper" is a popular saying for those whose avocation is unduly sedentary The position of the head, when lying down is very important. In an anemic patient, the foot—end of the bed should be raised and in the hypertensive the head end of the bed should be raised. It is better to lie in any lateral position

(c) Avoid worries, anxities and solution of problems, when retired to bed.

(c) Habits—Good and regular habits are valuable factors in inducing sleep Excess of tobacco smoking, or drinking of tea, coffee and alcohol are interdicted in insomnia.

(e) Assurance and confidence are to be impressed in the minds of patients. Psychotherapy may be needed in selected cases.

(3) Drug Treatment.—When the above procedures fail to induce sleep, drugs are essentially necessary particularly the hypnotics.

Following considerations are to be taken into account when prescribing hypnotics.—(i) When prescribe a hypnotic please do it wholeheartedly (ii) Give the full dose to get the desired effect. As regards hours of sleep every one is law unto himself (iii) Administer the drug in solution (iv) Repeatation

of the doses of hypnotic should be strictly under medical control. When a hypnotic is used for a long time there is every chance of development of drug habit. Prolonged use of a hypnotic is liable to depress the nervous and other systems.

The following groups of drugs are used —

(i) Sedative—Bromides.

(ii) Hypnotics—chloral hydrate, paraldehyde, barbitone barbitone sodium, Phenobarbitone and its sodium salt, luminal, gardenal seconal—sodium amytal etc.

(iii) Analgesics—Opium and its derivatives.

(iv) Tranquillizers—reserpine, chlorpromazine, meprobamate etc.

(i) Bromides of sodium and potassium—Dose—5 to 20 grains These are electrolytes. Bromides are indicated in sleeplessness arising from prolonged strain—emotional, intellectual or worry It is given as follows—

Rc, Potassium bromide—gr 15
Syp roso —m 60.
Aqua chloroform ad 1 OZ.

Mist.

To be be taken immediately before retiring-

It produces sleep very rapidly Often it is given in 40 grs dosage, if necessary it can be repeated in an hour The action of bromide depends upon the chloride intake of the patient. It acts by cumulative effect. In case of females, liq arsenicalis—2 to 5 minims be added to the mixture to avoid skin lesion—acne, when the mixture is continued for a few days. In some patients bromide mixtures, containing 15 grs in each dose, three times a day are continued for months, mental changes are liable to be produced with a toxic bromide blood concentration of 100 to 200 mg per cent particularly in the elderly patients. In such a condition, bromide should be stopped, Sodium chloride be given orally or intravenously

Nicotinamide particularly in big dose is said to be very efficacious in this condition.

(ii) Chloral hydrate—Dose—5 to 30 grains.

It is soluble in water It acts in less than half an hour It is used in sleeplessness due to over work or worry as following.

Re, Chloral hydrate—gr 10 to 20.
Ext glycyrrhyza liq—m 30-60
Aqua ad —1 OZ.

Mist.

Sig. To be taken before retirement.

Sleep lasts for 5 to 8 hours free from dreams Often bromide and chloral hydrate are given together as following.

Re Sodium bromide—gr 15
Chloral hydrate —gr 15
Syp rose —m 60
Aqua ad 1 OZ.

Mist.

Sig. To be taken before retirement.

It is useful in those who go to bed and toss and there is delay in getting to sleep. It has no deleterious effect on the heart and blood vessels. It can be used in presence of heart disease. It has no effect on pain.

In presence of pain, the famous "Three Fifteens Mixture is used.

Re Sodium bromide—gr 15
Chloral hydrate —gr 15
Tinc opii —m 15
Aqua ad 1 OZ.

Mist.

Sig. To be taken once only when going to bed.

Often morphine—gr 1/6 is used along with the mixture instead of tinc opii. It is incompatable with alkalies and soluble bar biturates. Chloral hydrate in solution can be administered

per rectum in presence of restlessness where oral medication is difficult Choloral hydrate is a good substitute for barbiturates, where the latter is intolerant.

Paraldehyde—Dose—2 to 8 mls. By intramuscular injection —2 to 8 mls. It is a very good and safe hyphnotic. It acts in fifteen minutes. It has no deleterious action on the heart. Its unpleasant tste and smell are drawbacks. It is prescribed as follow—

Re, Paraldehyde—m 120
Syp aurantii—m 60
Aqua ad—1 OZ.

Mist.

Sig. To be taken when has retired to bed. After taking the medicine, put off light.

The taste may be disguised by be the administering the drug *in fruit juice with pieces of cracked ice. Many favour the idea,* it should not be prescribed in less than 120 minim dose. It can be given per rectum—dose—120 to 240 minims in an ounce *of olive oil or in four ounces of normal saline. Good samples* of paraldehyde is neutral in reaction. If the bottle of paraldehyde remains half empty paraldehyde is converted into acetic acid, if this be given least diluted it will erode the rectal mucous membrance. It is the best hypnotic in cardiac and respiratory troubles It is cotraindicated in gastric and duodenal ulcers and *extensive lesions in the liver Often rapid* action is needed, in presence of restlessness—2 to 8 mls may be injected intramuscularly In the mental hospital, the *hypnotic mixture contains 60 minims of paraldehyde per dose,* to be repeated every fifteen minutes upto 4 doses when necessary

Barbiturates—*The most popular hypnotics belong to the bar* biturates group. They are legion. Their mode of action is almost the same. Every physician has his own favourite.

For the young physician, it is always better to specialise one drug and to have full control over it. Barbiturates are effective sedatives and hypnotics. They are used in wide range of conditions such as insomnia, worry and anxiety, with analgesic to relieve pain etc. They are grouped into—

(i) Short—acting barbiturates—They are used as anesthetics. Examples—pentobarbital sodium, evipan sodium used in intravenous anesthesia Among others—cyclobarbitone (Phanodorm, phanodorn) This cyclobarbitone is quickly absorbed and rapidly eliminated It is useful in anxiety states. With late Dr G S Bose phanodorm (Bayer) was a favourite in the treatment of anxiety states and psychotics. Dose—3 to 6 grs. As a hypnotic it is useful in insomnia in which there is initial difficulty in getting to sleep

(ii) Intermidiate—acting barbiturates—

(a) Amylobarbitonum sodium (Sodium amytal)—Dose—1½ to 3 grs. To be given half an hour before retirement. It is useful in insomnia, when initially there is difficulty in getting to sleep.

(b) Buto—barbitonum—(Soneryl) Dose—1 to 2 grs. Produces sleep in half an hour It should be given half an hour after meal and half an hour before retirement.

(iii) Long—acting barbiturates—

(a) Barbitonum (Veronal)—Dose—5 to 10 grs. Prescribing dose—as hypnotic—should not exceed 7 grains. It is less soluble. It is better be given as powder dissolved in a glass of hot milk, an hour before retiring. It is slowly excreted. Better soluble is barbitonum sodium—(veronal sodium, medinal)—Dose—5 to 10 grains. Prescribing dose should not exceed 7 grains. It is soluble in water

(b) Phenobarbitonum (Luminal, Gardenal) Dose—½ to 2 grains Its action begins slowly and effect lasts long. So it is useful in cases where the patient goes to sleep but wakes up

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after a few hours and passes the rest of the night sleepless. Barbitonum sodium—(Luminal sodium, Gardenal sodium)—Dose—½ to 2 grains. Single dose by intravenous or intramuscular injection for rapid effect—1 to 3 grains. It is given as a powder when retiring to bed

Insomnia, has been classified into three categories. (D Williams)

(1) Initial type—When a patient goes to bed and tosses for some time before he falls asleep.

(2) Intermittent type—The patient goes to bed and soon falls asleep Hours after he wakes up and passes a few sleepless hours, again he falls asleep again he wakes up He feels tired It is common in elderly people.

(3) Terminal type—The patient goes to bed and falls asleep soon. He wakes up in the early hours of the morning and passes the time when the rest of the world is calm and quiet and asleep. This torments him.

Type of insomnia.	Drugs to be used and their dosage.
1 Initial type ..	(i) Bromides—10 to 20 grs. (ii) Chloral hydrate—10 to 20 grs. (iii) Paraldehyde—120 to 180 minims. (iv) Sodium amytal—1½ to 3 grs. (v) Barbitonum sodium (sodium veronal)—5 to 7 grs.
2. Intermittent type ..	(i) Sodium amytal. (ii) Sodium barbitonum.
3 Terminal type	(i) Sodium phenobarbitonum—½ to 2 grs (Gardenal sodium, luminal sodium). To be taken when retiring. Sedative—gr ½ Hypnotic—not less than 1 gr

(iii) Analgesics—When *insomnia* is due to pain. analgesics should be tried first before the use of morphine. Tab Codeine Co

(Composition—aspirin—gr 4 phenacetin—gr 4 codeine—½ gr) Sig. 1 to 2 tablets.

Or Re, Aspirin—gr 5
Pyramidone—gr 5
Codeine—gr ½

Pulv

Sig. To be taken every two hours not more than two doses. In encephalitis lethargica—the following is useful—Veronal—gr 5 aspirin—gr 5 in powder form. To be taken before retiring, followed by a cup of hot milk

Morphine is indicated when quick and effective analgesic with hypnosis is desired. Morphine gr 1/6 to ¼ with atropine sulphate—gr 1/200 to 1/100, to be injected subcutaneously It should not be used every day lest a morphine addict is formed Morphine is contraindicated in the asthmatic and the nephritic patients.

(iv) Tranquillizers—A new group of drugs, recently introduced which induces a mental state, free from agitation and anxiety and renders the patient calm serene and peaceful (Liberman and Vaughan) They are used in presence of agitation and increased tension They do not produce hypnosis. But they are depressant to the nervous system and the circulatory system. They are used as such or in combination with a intermidiate—acting barbiturate when the doses of both are smaller Rauwolfia preparations are used the most. There are many preparations of the whole root in the market. Drug, prepared by a reliable and dependable chemist should be used. The author prefers—Serpex tablet (B I)—containing all the active principles in the normal ratio as they occur naturally in the whole root. Dose—1 to 3 tablets. The most active principle of Rauwolfia Serpentina is reserpine. Pharmacopial preparations—Extract Rauwolfia Siccum—Dose—½ to 1 grain (15 to 60 mg) (I. P)

Reserpine (B. P.)—Dose—0.25 to 1 mg.

If the quantity to be contained in a tablet is not stated, tablet containing in each 0.25 mg should be dispensed or supplied.

Rauwolfia does not act quickly It takes 3 to 6 days to produce its effect. If the drug is stopped, it takes a few days before the action of the drug is gone. In case of urgency reserpine—1 to 2.5 mg in 1 c.c. *may be injected intramuscularly* If necessary it may be injected twice daily Chlorpromazine hydrochloride—(B. P.) —Dose—25 to 50 mg.

By intramuscular injection—25 to 50 mg.

Chlorpromazine hydrochlor tablet—25 to 50 mg.

Opium and morphine preparations.

Opium and morphine are the drugs of choice in insomnia due to pain. But before one prescribes these preparations other mehtods and preparations should be tried. Three pharmacopial preparations of opium are in common use. —

Tinctura Opii—Dose—5 to 30 minims. (Strength—morphine 1%)

Tinctura Opii Camphorata—Dose—30 to 60 minims. (Strength of morphine—0.05%)

Pulvis Ipecacuanhae et Opii—(Dover's powder)—
Dose—5 to 10 grs. (Strength—powdered opium—10%)

Tinc opii camphorata—the strength of opium is less. It is used in cases of children In adults, when the pain is severe Dover's powder—gr 5 is given at bed time. N B Opium is contraindicated in presence of bronchitis, and tympanitis in the abdomen. The usual hospital formula—is 'Three fifteens

Re Sodium bromide—gr 15
Chloral hydrate—gr 15
Tinc opii —m 15
Aqua ad 1 OZ.

Mist

Sig. To be taken at bed time.

N B. Always take care that the patient does not become opium addict. Morphine hydrochloride or sulphate or tartrate—gr 1/8 to 1/3 Orally or by subcutaneous intramuscular or intravenous injection

Individuals suffering from severe pain can withstand and often require large amounts of morphine without manifesting subjective or respiratory depression Such an example is seen in a person with pain from acute coronary thrombosis. Often he requires several injections (doses) of morphine. The total dose may be nearly gr ½ or more in twenty four hours. Morphine is used in pain and sleeplessness of congestive cardiac failure

Morphine is contraindicated in acute alcoholism, delirium tremens and convulsive disorders.

The patient's illness and the state of reflex excitability of his nervous system also determine the response to morphine. Thus patients with cerebral edema, cardiac psychoses or fever may be excited by morphine.

In delirium tremens—Douglas recommends—hyoscine hydrobromide—gr 1/200 to 1/100 and apomorphine hydrochloride—gr 1/50 to 1/40 In maniacal state—the following are advocated—old drug—hyoscine hydrobromide—gr 1/200 to 1/100 New drugs—reserpine—mg 1 to 2.5 in 1 c.c. intramuscularly chlorpromazine—50 mg intramuscularly Chlorpromazine—can be repeated every six hours. Next the dose may be increased 50 to 100 mg according to the nature of the case and discretion of the physician.

Intestinal Parasitic Infestations.

Ankylostomiasis. (Infection due to ankylostoma duodenale)

1 Prophylactic measures—consist of use of foot-wear and hygienic habits after defecation and cleanliness.

2. Curative

(a) Preparation of the patient for anthelmintic treatment. The patient should be given calcium salts and glucose for three days prior to treatment, In the night, Light nutritious, non-residue diet is to be taken.

(b) In the following morning, anthelmintics are administered as—

Re, Oil of chenopodium—m 5
Carbon tetrachloride—m 10.
In capsule or lump of sugar

Sig. In the morning, in an empty stomach, three such capsules are to be taken at the interval of an hour An hour after the last dose, a dose of saline purgative is to be given as

Re, Sodium sulphate—gr 240 (16 G)
Tinc cardamom co—m 30.
Aqua menth pip ad 2 OZ.

Due to their toxic actions, carbontetrachloride and oil of chenopodium, are less used now-a days.

(c) The drug of choice in the treatment of ankylostomiasis is tetrachloro ethylene. Dose—3 to 5 ml. Preparation of the patient as in case of carbontetrachloride. In the following morning—3 ml of tetrachloro ethylene is given in a single dose or in divided doses in hard gelatin capsules. The interval between the doses half to one hour Children may be given 0.2 c.c. for each year of age up to 15 years. Many are of opinion that it should not be followed by a purgative. Purgative increases the toxicity (Bueding & Swartzwelder) The only drawback—drowsiness and nausea and giddiness, the patient should rest in bed during treatment. It is in presence of round worm infection, oil of tchenopodium—m 5 may be added to each capsule or the patient should be first treated

for round worms with piperazine next followed by tetrachloro ethylene treatment.

Preparation of the patient as before. A saline purgative in the evening. Another drug used is hexylresorcinol. Anthelmintic dose—1 G

Re, Hexylresorcinol—gr 3,

(Pure crystalline form is used)

To be freshly supplied in hard gelatinous capsules.

Sig. One capsule is to be taken, every fifteen minutes till five capsules are taken in the fasting state since 4 P M last evening. The drug acts best in absence of food particles in the intestines.

Light evening meal in the last evening before 4 P M In the following morning, the drug is given in an empty stomach

One to two hours after the last dose it should be followed by a dose of sodium sulphate—16 G in an ounce of water Many authorities do not favour any purgative after hexylresorcinol

Caution. The drug should be freshly dispensed immediately before use The capusules should be swallowed and not chewed. It produces burning sensation in the mouth if chewed. No food should be taken four to five hours after this drug is taken.

Adjuvants—In presence of severe anemia blood or concentrated red blood corpuscles transfusion may be necessary or intravenous iron therapy or orally iron—ferrous salts may be given, to raise the hemoglobin content when anthelmintic be prescribed. Diet should be high protein, well vitaminised and well balanced In an average case, after the use of an anthelmintic, ferrous salt—ferrous sulphate exsiccatus—1.2 G daily after meals, with or without vitamine C.

Repeated examination of stools or the worm or its ova will show when the patient is free from infection.

Ascariasis. (Round worm infection due to ascaris lumbricoidis)

1 Prophylactic treatment consists of pairing of the nails. Nails are to be cleaned with a nail brush soap and water before taking meals, not to take any food that falls on the ground, hygienic toilet after defecation. Vegetables and raw fruits are to be dipped in a just pink solution of potassium permanganate at least for two hours before salads are prepared

Curative.—In the adults—single dose treatment is adopted of the following drugs—(I) Hexylresorcinol—1 G in divided doses, 3 grs in each capsule.

(II) *Piperazine adipate or phosphate (B P)—4.5 G capsules* or in sugar in a single dose.

Light food to be taken in the previous evening within 6 P.M. In the following morning, in an empty stomach any one of the drugs, mentioned may be given. One hour after the last dose of the antihelmintic a dose of saline purgative—sodium sulphate —16 G in an ounce of water be given.

Salts of piperazine—citrate, hexahydrate, adipate or phosphate are equally effective. In adults and in fastidious patients— Elixir or syrup of piperazine—citrate or hexahydrate—5 to 10 mls every day before breakfast for one week is advocated. Each mil contains 100 mg of piperazine hexahydrate or citrate. Piperazine should be given with caution in patients with impaired renal function. Piperazine treatment can be used in Pregnacy with impunity (Bueding or Swuterwelder)

Santonin is least used due to its toxicity

Enterobiasis (Pin worm or Thread-worm Infection)

Prophylaxis—Hygienic rules are to be followed as in a case of round-worm infetion.

The following drugs are advocated—

(i) Enema with hypertonic saline before retirement—for one week together

(ii) The drug of choice is piperazine—

Piperazine—B P preparations.

Piperazine adipate—Dose—In the treatment of thread worm infestation—1 to 2 G daily in divided doses. It should be given in an empty stomach before breakfast for eight con secutive days. Piperazine adipate tablets—In the treatment of thread worm infestation—1 to 2 G daily in divided doses. If the quantity in a tablet is not stated, tablets containing 0.3 G shall be dispensed or supplied It should be given like the adipate. Piperazine phosphate—In the treatment of thread worm infestation, 1 to 2 G daily in divided doses. It should be given as the adipate. Piperazine phosphate tablet—In the treatment of thread worm infestion 1 to 2 G daily in divided doses. Strength is the same as the piperazine adipate tablets.

Syrup piperazine (be it hydrate or citrate or adipate or phosphate)—dose 5 to 10 mls. Strength—100 mg of the salt in each mll. First thing in the morning, in an empty stomach before break fast, for ten to fourteen days. It is effective and non-toxic, Until recently gentian violet and oxytetracycline (Terramycin) were used with demonstrable therapeutic properties. But their limited degree of activity or the frequency of side reactions was serious defect in the application of these drugs. (H. Most.)

(3) Two cyanin dyes—pyrvinium chloride (Vanquin Proquil) and dithiazanine have been reported to be at least effective as piperazine in curing pinworm infections. Both these drugs claim 100 per cent cure. But their side reaction is vomiting

Pyrvinium chloride—Dose—0.5 to 1 mg per Kg of the body weight, three times a day before breakfast for three days

Dithiazanine—Dose—100 to 200 mg in enteric coated tablets, three times a day for five days; before breakfast

Giardiasis (Lamblia intestinalis)

General hygienic rules are to be observed to avoid such infection Specific treatment with—(1) Atabrine (quinacrine) —0 1 g each tablet, three times a day after meal for one week.
(ii) Another drug advocated is chloroquin.
Adjuvants to treatment—In presence of diarrhoea, bismuth carbonate—120 to 240 gr (8 to 16 G) to be taken first thing in the morning
Diet—High protein diet is advocated.

Tape worms (Cestodes)

Three kinds of tape worms are seen commonly They are—
(i) Taenia saginata—the beef tape worm.
(ii) Diphyllobothrium latum—the fish tapeworm.
(iii) Taenium solium—the pork tape worm,
The first two tape worms are found in adults. It is not generally appreciated the eggs of the beef tape worm (T saginata) or the pork tape worm (T solium) are usually not found in the stool (Most)
Prophylaxis—Avoidance of partly cooked fried, possibly meat or fish.
Curative treatment.—Treatment of all types of tapeworms is almost the same.
Preparation of the patient.
In the late evening, an ounce of sodium sulphate solution containing (16 G) crystalline sodium sulphate be given. In the night a light diet—such as milk, rice and sugar or milk rice or cooked cereals, clear soups and fruit juice be taken.
In the following morning, a saline enema be given Next atabrine (quinacrine) be given—total dose 0.8 to 0.9 G Each tablet of quinacrine - 0 1 G (1½ gr) First thing in the morning, in an empty stomach—3 tablets with sodium bicarbonate 1G (15 grs) be taken every half-an-hour for three doses or two tablets a time with 0 6 G (10 grs) of sodium bicarbonate, every

fifteen minutes, for four doses. Two hours after the last dose a dose of saline purgative (sodium sulphate mixture) or an ounce of castor oil be given. The second dose of the purgative will be determined by the reaction of the patient to the first dose of the purgative.

Stool should be collected in a bed pan and seived through a gauze and the head looked after If the head is not found repeat the anthelmintic 10 to 12 weeks after For anemia—iron and liver orally Toenia spiralis—There is no specific remedy But when the patient is acutely ill, the severity of the disease may be controlled by the judicious use of A. C. T H. (Current concept in therapy)

Whip-worm (Trichuris Trichiura)

Until recently there was no specific remedy for whip-worm infection. At present dithiazanine is the drug of choice in whip-worm infection. This infection may be associated with other helminthic or protozoa infections. Dithiazanine is efficacious not only in mild and asymptomatic type of infection but is as effective in the virulent form complicated with dysentery or rectal prolapse.

In the mild case—600mg daily in divided doses for five days in the morning, before breakfast. In the severe infection—600 mg of dithiaznnine daily in divided doses for tendays will produce clinical and parasitic cure in most cases. (Current conceptn Therapy Bueding & Swartzweider)

Strongyloids Stercoralis.—Until recently there was no specific remedy for this infestation. Dithiazanine—600 mg daily in divided doses for three weeks is recommended (Swartzwelder etal)

Jaundice (Infective Hepatitis of Viral Origin)

1 Isolation of the patient. Stools should be taken care of as in a case of typhoid fever

2 Absolute rest in bed till full recovery

3 Diet—Fat free diet in presence of nausea and vomiting till the bile color appears in the stool when fat can be given. Diet should be *high protein, high carbohydrate (fructose and honey* in good amount) from the begining. Milk—200 G Cheese—100 G One egg. Lean meat—50 G Fat not exceeding 50 G of butter (Kuhn). In acute stage—(I) Glucose—5% in solution to sip ad lib.

(II) Magnesium sulphate or crystalline sodium sulphate—120 to 240 grs (8 co 16 G) in an ounce of water in the morning.

3 Glucose intravenously 5 to 10 per cent—500 to 1000 c. c. once or twice daily In presence of nausea and vomiting.

4 Protein hydrolysate—in liquid form—2 to 3 ounces a day

5 Vitamins—There is no evidence that excessive amounts of vitamins are desirable on the contrary too much Vitamin B_1 is harmful. 1 to 3 mg. per mouth, daily is adequate (Barker et al)

6. For abdominal cramp and pain—belladona and atropine.

7 Morphine is to be avoided as these patients overact to usual doses. This is also true to a lesser extent of the barbiturates

8. *Contraindications—Alcohol is contraindicated* in all stages of active hepatitis. Bile salts are contraindicated because of possible toxic effects on a damaged liver (Barker et al).

9 Methionine is of doubtful value in the treatment of acute infective hepatitis.

10 Vitamin B_{12}—30 mcg by mouth daily is said to be useful (Campbell and Pruitt)

11 Cortisone, ACTH or prednisone—Advocated in cases which do not respond to dietary therapy in the course of three to four weeks. Cortisone—1500 mg in 10 days followed

by 3 doses of 10 units of ACTH. Cortisone may be replaced by prednisone, (Kuhn)

Kala-Azar

1 Rest in bed and isolation of the patient.

2. Specific treatment with antimony—Urea-stibamine—Initial dose—0.05 gradually increase the dose to 0.25 Grm. Injection to be given twice weekly after thorough examination of urine and the heart. Death is reported after quick and concentrated solution of ureastibamine intravenously Take all precautions before injection, Injection will be slow Total dose is—2.8 Grm, Two other preparations are used—Neostibosan—0.2 to 0.3 Grm doses. Intravenously Sodium antimony gluconate—100 mg in 1 c.c. Intramuscularly Two to three times a week. Total dose—60 c.c

3 Adjuvants to specific treatment—Iron salts, protein hydrolysate—orally and parenterally calcium salts, Vitamins etc.

4. Diet—High protein high calorie well balanced diet easily digestable.

5 Hygiene of the mouth should be attended to

Laryngitis, Acute Catarrhal

1 Vocal rest—The patient must not talk. He would write in a slate.

2. Steam inhalation of Tinc benzoin co—one tea spoonful in a boiling kettle and the steam to be inhaled when the patient is in a room 6 to 8 times a day Often a grain of menthol may be added to tinc benzoin co

3. Application of kataplasma kaolin or mustard plaster externally to the larynx Mustard plaster will be kept 2 to 5 minutes.

4 Trochiscus penicillin—one every 3 hours.

mg daily. The dose is to be increased fortnightly Maximum dose—100 mg daily in divided doses, after meals, should not be exceeded, in the under weight and under nourished Indians. Increase of dose should be slow and cautious. Always watch for the earliest signs of toxicity Blood count should be done fortnightly during this treatment Two drawbacks—(Cochrane)—(i) The drug has to be given by the oral route daily (ii) It is not free from toxic signs.

Ethyl esters of hydnocarpus oil—Cochrane advocates—Not less than 5 ml, twice a week intradermally in one bacilliary positive areas of the skin

Treatment to be continued for two years after activity of the disease has ceased (Cochrane) A minimum period of 5 years of treatment by sulphones seems to be indicated (Rdriguez).

In the acute phases of leprosy Agues recommends—prednisone in the following dose. The preparation he used—Decortin (Merck)—5 mg each tablet. First 2 days—3 to 4 tablets daily 3 to 4 days—1½ to 2 tablets daily 5 to 7 day—1 to ½ tablet, daily Then one tablet, once a week. Eleven patients were treated with benefit.

Diethyl Dithioliosophthalate. (Syn. E. T. I. P., 'Etisul'). (Davy and Hogerzeil)

Diethyl Dithioliaophthalate is used as an inunction in the treatment of leprosy—in the lepromatous and tuberculoid types. It is used in ointment basis 70% cream with strong perfume to mask its bad odour Dose—3 to 6 c.c. To be rubbed over a wide area free from hairs. This thing should continue for two to three months. If this drug is continued alone for four months or more, there is every chance of development of drug resistant strain of leprosy To counteract this, the present day idea is to supplement the inunction with oral D D S. This is in experimental stage now *Future expectation is full of hope.*

The only drawback is its offensive smell to patients themselves and also to those arround them.

Leukemia.

Leukemia is classified into—(1) Acute Type. (ii) Chronic Type (a) Granulocytic (b) Lymphocytic.
Acute leukemia particularly lymphoblastic leukemia is disease of childhood and myeloid leukemia one of middle life, and chronic lymphatic leukemia has the age distribution of a typical cancer (Burnet)
Though there is no cure for leukemia, but with the advancement of therapeutics, morbidity has diminished and life may be prolonged. Dameshek and Gaunz remark that on the one hand physicians should neither terrify the patient nor should they give very high hopes. The aim is to make the remaining days of the life of the patient peaceful and happy as far as possible.
The only word that can be said for prophylaxis—avoid exposure to ionic radiation as far as possible Leukemia is characterized by remission which may be followed a few days or weeks later by exacerbation.
There are two untoward features about chemotherapy in leukemia. (Dameshek and Gaunz)—(1) All the agents are myelotoxic i.e. injurious to the bonemarrow and (2) "resistance" to their action usually develops after a certain period of use. Myelotoxicity varies with chemical agent used and the dose given The most limiting factor in the treatment of leukemia is the capacity of the bone-marrow to withstand the shock of the chemotherapeutic agent. It should be known that reactions to treatment is often worse than the original disease, particularly in chronic leukemia.

Treatment of Acute Leukemia.

Acute leukemia is common in children and young adults. Treatment is under four headings — (1) General. (2) Specific. (3) Symptomatic. (4) Complications.

General Treatment.—A leukemic patient should be allowed to lead a normal life on a well balanced diet. He should avoid trauma and exposure to infection Antiseptic gargle is to be used before and after meals. In presence of fever infection, hemorrhage, or marked anemia, bed rest should be enforced.

Specific treatment.—The following are advocated —(Wintrobe et al). (Patterson) (Innes)

(i) 6—Mercaptopurine (ii) Folic acid antagonists—Aminoptrin and Amethoptrin are useful under 25 years of age.

6—Mercaptopurine—Patients under 21 years of age respond well. The daily dose is 2.5 mg per Kg of the body weight, which is approximately 100 to 200 mg in an average adult and 50 mg in the average child of 5 years old. The drug is to be continued for several weeks.

Side effects—are leukopenia and thrombocytopenia.

Folic Acid Antagonists—

Aminoptrin—Dose—o.5 to 1 mg daily and orally with great caution in children. Amethoptrin—Dose—2.5 to 5 mg daily Treatment is to be continued for several weeks. Drawback of these drugs—ulcerative conditions of the mucous membrane of the mouth and intestines.

N. B. The use of these drugs is always to be checked by the symptoms of the patients the white blood cells count of the blood. We are to treat a patient as a whole. More attention is to be focussed on the condition of the patient.

Symptomatic Treatment.

(i) Hemorrhage—It is treated with fresh human blood, rich in platelets, transfusions.

(2) Severe anemia, not amenable to iron and liver therapy requires transfusion of concentrated red blood cells. The volume should not exceed 50 c.c. at the outset. Gradually the volume is increased taking care of the heart and the lung conditions.

(3) Cases of acute leukemia, complicated with dehydration and loss of electrolytes are often seen in the hot months in Calcutta. These cases are to be treated with infusions of 5 per cent glucose solution, Ringer's solution, or Ringer's Lactate solutions.

(4) Infections should be treated with appropriate antibiotics.

(5) In presence of anemia, or when the patient is going down or the condition of the patient is serious—steroid hormones are advocated by all authorities. Cortisone—100 mg in divided daily doses in children for 10 to 14 days. Prednisone may be given in one fifth of the former doses. Good effect may last for a few weeks. It is often followed by resistance to drugs. In acute ill patients—6—mercaptopurine and prednisone may be used simultaneously

(6) Skin—Pruritus of the skin may be relieved by antihistaminics. Complications to be tackled as the occasion demands it. Radiotherapy is contra indicated in acute leukemia.

Chronic Leukemia.

The outlook of chronic leukemia is little better than acute leukemia. Here in also treatment resolves into four items—(1) General (2) Specific (3) Symptomatic (4) Complications. Chronic leukemia is more common in adults.

General Treatment—is in the same line as in acute leukemia.

Specific treatment—The following antimitotic drugs are recommended by most of the authorities.—(i) Myleran, (ii) T E M (iii) Radio active phosphorus (iv) Nitrogen mustard (v) Radiotherapy (vi) Urethane

(i) Myleran—(1 4—dimethane sulphonoxybutane). Dose—2 to 8 mg daily But 4 to 6 mg produces a fall. Treatment is stopped when the leucocyte count diminishes to 10,000 (Wintrobe et al.) Very useful in chronic myelocytic leukemia.

(ii) Triethylene melamine—(T E. M) Dose—2.5 to 10 mg weekly It is the drug of choice in the treatment of chronic lymphocytic leukemia. It often produces remission.

Draw-back—It may produce agranulocytosis, thrombocytopenia, gastrointestinal disorders etc.

(iii) Radioactive phosphorus (P^{32}).—Dose—5 to 7 millicuries, intravenously every 6 to 8 weeks. It is less used in U. K. Useful in chronic myelocytic leukemia

(iv) Nitrogen mustard—Useful in chronic lymphatic leukemia. It is being replaced by T E. M.

(v) Radiotherapy—Radiotherapy is very effective in the treatment of chronic myelocytic leukemia and also in the local irradiation of an enlarged lymphatic gland or enlarged spleen in chronic lymphatic leukemia. When the case becomes refractory to radiotherapy myleran may be used instead and vice versa.

(vi) Urethane—Useful in chronic myelocytic leukemia. Dose—0.3 g every 3 to 4 hours till 3 to 4 g daily is taken. Draw-back—Gastro-intestinal and nervous symptoms. It is less consistent in action.

Symptomatic Treatment—is in the same line of acute leukemia. Steroid therapy—In serious cases, cortisone—200 to 300 mg daily in divided doses in adults and 100 to 200 mg daily in children may be used in divided doses in critically ill children. If necessary 25 to 50 mg may be given intravenously in normal saline or 5 per cent glucose solution—duration of infusion may may be 8 to 12 hours. Prednisone may be substituted in a less dosage such as 20 to 25 mg daily in divided dose, if one needs, the dose may be increased. It may be used with antimitotic drug.

Complications—should be treated as they arise.

Malaria.

Causal prophylactic—biguanidine e. g. proguanil (paludrine)
Supressive—By suppression is generally meant, that the inhibition of the erythrocytic stage of development of the parasites so that the infected individual is kept free of clinical manifestation of the disease. The drugs—used commonly as suppressive—are—weekly paludrine (300 mg) chloroquine or camoquin (0.3 to 0.4 g) fortnightly

Schizonticidal drugs—are—quinine, mepacrine, chloroquine, or camoquin. These are the dependable drugs to be used in controlling an acute attack of malaria

The treatment of a given case of malaria depends largely upon the species of infecting plasmodium and the degree of resistance to infection offered by the patient.

Drugs acting on gametocytes—are—pamaquin (plasmochin) and pentaquin. Pentaquin is less toxic than pamaquine

In an acute attack of malarial fever in semi-immune people,

Re, Quinine sulphate—gr 5
Acid hydrobromic dil—m 10
Aqua chloroform ad—1 OZ.
Mitt.

Sig. One dose three to four times a day In severe cases one dose every four hours.

N B. Any one of the mineral acids may be used to dissolve quinine sulphate—such as acid hydrochlor dil. acid sulphuric dil, citric acid

When quinine tablets are used, they should be crushed before taking. It should be followed by acid drink such as lime juice in water.

Re, Quinine sulphate gr 2½

Acid citric —gr 2

Pillula.

Sig. Two pills at a time three to four times a day

Quinine mixture to be continued for 3 to 10 days according to the nature of the infection

In the military and in people whose height and weight are above the average—the following is indicated.

Re, Quinine sulphate—gr 10

Acid Sulphuric dil—m 30.

Aqua chloroform ad—1 OZ.

Mist

Sig. One dose three times a day for two days, next one dose twice daily for another 3 to 5 days. It is followed by suppressive dose of atebrine or chloroquin.

N B. The same mixture is advocated in the non-immune *persons or in the severe malignant tertian infection.*

Oral method of administration of quinine is the best method in all cases of acute malaria unless quinine is contraindicated *for some reasons or other* *The action of a dose of quinine* does not last for more than six hours. But three times a day is sanctioned by usage, How to stop an attack when the exact *time of rigor is known ?*

The best means is to administer a dose of quinine two hours before the expected attack and another dose one hour before the expected attack. The two doses of quinine so administered will abort the attack.

If the patient has got nausea or vomiting and the patient cannot take anything orally or the patent is unconscious, the best way to administer quinine is by intramuscular or intravenous injections. Intramuscular Injection of quinine—10 grs of quinine bihydrochlor in 10 c.c. of double distilled water or normal saline—to be injected in the outer quadrant of the gluteal region. Inject a little air with the solution.

Have the needle and syringe sterilised by boiling for at least ten minutes.

Intravenous injection of quinine—Two formulas are advocated

(i) Quinine bihydrochlor—gr 6 to 10 in 50 to 100 c.c. of normal saline or distilled water in a sterilised syringe—to be injected slowly taking not less than 15 minutes.

(ii) Quinine bihydrochlor—grs 6 to 10 in a pint of sterilised—5 per cent glucose in normal saline—intravenously in a drip method, Injection can be repeated every 4 to 6 hours. Oral administration of quinine should be started with the earliest oppertunity One must remember that quinine bihydrochlor is the most hemolytic of the quinine salts.

Quinine acts best when there is no torpidity of the liver and bowels are clear The following purgative is advocated.

Re Hydrag subchlor—gr 1
Sodium bicarbonate—gr 10

Pulv

Sig. To be taken in the evening. To be followed in the next morning by a dose of magnesium sulphate.

For cinchonism, bromides are indicated

Re, Sodium bromide—gr 5
Sodium bicarbonate—gr 10
Syrup rose —m 60
Aqua ad—1 OZ.

Mist.

Sig. One dose three times a day 15 minutes before each dose of quinine mixture.

When fever is off anemia should be treated with iron salts—preferably ferrous. The diet should contain high protein If necessary protein hydrolysate should be given.

Re, Ferrous sulphate—gr 5

Pulv

Sig. One powder three to four times a day after meals or

with citrus fruit juice one hour before meals. (Garnick)
The usual hospital mixture is—

Re. Quinine sulphate—gr 5
Acid suphuric dil—m 10
Ferrous sulphate—gr 3.
Magnesium sulphate—gr 30
Aqua —ad 1 OZ.
Mist.

Sig One dose three times a day

Cinchona plantation is cultivated by the Union Government. In every post-office the quinine sulphate tablets are sold at the cheaper rate. Contraindication to quinine therapy—Quinine sould not be given in presence of menstruation and otitis media.

Mepacrine therapy

Each tablet is 0.1 Gm. Two tablets every six hours for five doses. Next, one tablet, three times a day for six days. Direction—the tablets should be given after meals. Watch *for the signs for intolerance and if necessary stop it.* Draw-back—yellow coloration of the skin, Sleeplessness etc.

If oral medication is not possible the drug should be given by intramuscular injection—Aterbine musonate—0.2 Gm in 5 c.c. of distilled water

Chloroquin therapy

Chloroquin—0.25 g each tablet. Four tablets stat, two tablets eight hours after. Next—one tablet twice daily for another three days. In cases where the drug cannot be given orally intramuscular injection of chloroquin phosphate—(0 2 g of the base or 0.5 g of the salt) Chloroquin sulphate—(Nivaquine) 200 mgm in 5 ml diluted to 15 ml of normal saline, slow intravenous injection in pernicious malaria. The tablets should be given always after meals. *Drawback*—Often nausea, vomiting follows chloroquin therapy Chloroquin is said to be the best among these three but it is costly

After the acute attack is controlled suppressive dose of two tablets a week should be given for four to six weeks in the malarial season.

Camoquine therapy—3 tablets of 0.2 g each are advocated But it is toxic to take three tablets at a time. It is better to administer one tablet at a time after meals three times a day

When gametocytes are present in the blood smear and when the fever is relapsing due to B T infection. The following line of treatment is advocated Pamaquin and pentaquin along with quinine are advised Pamaquin is more toxic than pentaquin.

Re, Pentaquin—gr 1/6 (10mg)

Quinine bihydrochlor—5 to 10 gr

Pulv

Sig. One powder three times a day for 10 to 14 days.

Another method is to give this drug for five days, stop for three days and give for five days and followed by rest etc. Three such courses. Keep watch for toxic symptoms.

Sleeves down after sun set use of mosquito-net and other anti-malarial measures are to be adopted to ensure effective control.

Chronic malaria.

Antimalarial drugs, high protein diet, iron liver extract and in severely anemic cases transfusions of blood and protein hydrolysates are advocated.

Measles

1 General management—Rest in bed adequate fluids, a liquid or soft diet. Isolation of the patient. Less light in the room for photophobia

2. If temperature is high—Salicylates are to be used

3 In presence of secondary bacterial complications—sulpha diazine and penicillin are to be used.

4 Excessive itching of the skin—calamine lotion may be applied.

Or Re, Oil of Cinammon—m 2½
Vaseline Alba ad I Oz.
Ung.
Sig. To apply locally

5 Prophylaxis and modification of the disease.

Human gamma-globulin—Dose—0.1 ml per pound of the body weight will provide complete protection. Indications of the prevention of the disease—in children under three years of age, in the debilitated and in the presence of other illness at the time of exposure Complete prophylaxis is obtained when the gamma-globulin is administered within six days of the exposure. Modification of the disease—When the human gamma-globulin is given by injection in doses of—0.02 to 0.03 ml per pound of of the body weight, will modify the disease if given within six days of initial exposure. Present day aim—to modify the disease by the use of appropriate amounts of antibody This will induce a mild form of disease, and, permanent immunity results. *(Ed. Comment)*

Steroids are indicated in severe orchitis complicating mumps, measles etc. (Flippin)

Meningitis,
Meningococcal Meningitis. (Cerebrospinal fever)

1 Rest in bed and isolation of the patient.

2. Lumbar puncture should be done only for diagnosis. Consensus of opinion, that lumbar puncture should not be repeated either for therapy or to follow the progress of treatment.

3 The most important part of treatment is prompt and adequate sulphonamide therapy Whether the patient is conscious or unconscious the initial dose of sodium sulfadiazine—2 Grms in a pint of 5% glucose in normal saline be administered intravenously by drip method. Two such pints be given as the initial dose. *It should be followed two hours after by 2 Grms* of sulphadiamidine orally and 1 Grm every four hours day and night when the patient is conscious. Plenty of fluids, glucose be given With sulphonamide therapy the temperature falls gradually to normal in four to seven days. The drug should not be continued for more than eight to ten days. Penicillin is also advocated. But some strains of meningococcus are resistant to penicillin. The initial dose is 5000 to 10 000 units in 5 to 10 c.c. of normal saline intrathecally after the first diagnostic lumbar puncture provided the cerebro-spinal fluid withdrawn is hazy or turbid and before the bacteriological diagnosis is complete. Next, crytalline penicillin 40,000 to 50 000 units intramuscularly every three hours. The object is that there is a lag period before sulphonamides act. In this period penicillin act. Benzathine or Benethamine penicillin in doses of 300,000 to 600 000 units daily—a single dose is advocated. But it is said that the mortality rate in cerebro-spinal fever is less with sulphonamide treatment than the combined treatment with sulphonamide and penicillin

Aureomycin is also useful for meningococcal infection. It is indicated where sulphonamides cannot be used.

The use of anti-meningococcal serum (polyvalent) has its limited field of use in cases where the offending organism is resistant to sulphonamide and penicillin Such type of a case is seen

4 General management of the case.

(a) Diet—Plenty of nourishing diet liquid and assimilable form In unconscious patients intragastric drip with Ryle s tube and parenteral alimentation are indicated.

(b) Restlessness—Paraldehyde 2 to 4 drams in 2 to 4 ounces of normal saline *per rectum or 5 to 10 c.c. intramuscularly*

(c) Care of the eyes.

5 Waterhouse—Friderichsen Syndrome.—(a) Adequate sulphonamide level in blood. (b) Penicillin—100,000 units every three hours intramuscularly (c) Circulatory collapse—To be treated by transfusion of blood or plasma. (d) Adrenal cortical hormone—30 to 50 c.c. intravenously It is a common practice in meningococcal meningitis to give intramuscular Eucortone in doses of 30 ml on the first day especially when there is severe fall in blood pressure in association with extensive purpura due to damage of the adrenal glands. More recently *cortisone is given in doses of 100 to 300 mg on the first day* or two. Discontinue when the blood pressure is normal. (Lorber) This steroid is indicated in meningococcemia. (Flippin). Arterenol (nore pinephrine). 4 c.c. of 1 1000 solution in 1000 c. c. of saline given intravenously for approximately 24 hours at a rate to maintain a satisfactory response has proved valuable in combating peripheral circulatory collapse. (Ettledort)

Subdural effusion—Subdural effusion occurs more frequently than is generally realized and has been reported to be present in as high as 47 per cent of the cases of purulent meningitis. (Smith et al). Pathogenesis—damage to cerebral cells, secondary *to arteritis and thrombosis associated with the inflammatory* process. The high incidence of this complication has made bilateral subdural taps a routine procedure in certain hospitals,—*Subdural taps are indicated* when one *or more of* the following signs are observed (1) persistence of fever beyond three to five days (2) recurrence of fever after a period of normal temperature (3) continued increase in intracranial pressure as evidenced by a tense fontanel, enlarging head, vomiting and convulsions in children (4) focal neurological signs and (5) any indication for unsatisfactory convalescence.

Meningitis, Pneumococcal.

1 Penicillin—1000 000 units intramuscularly and daily in divided doses. Intrathecally—10 000 units in 10 c.c. of normal saline, by gravity The volume of injection is less than the amount of cerebro spinal fluid withdrawn. Hydrocortisone —5 to 10 mg slowly intrathecally It prevents fibrous organizations and formation of spinal block. (Birkett)
2. Sulphadiazine—2 Gm stat 1 Gm four hourly day and night. With plenty of fluids, alkali, and glucose. If the patient is unconscious, 1 Gm of sodium sulphadiazine in 10 c.c of distilled water to be injected intravenously and slowly every four hours. As soon as the patient is conscious, oral medication will commence The drug is to be continued a few days after the clinical cure. It will prevent relapse.

Meningitis, Influenzal (Due To H Influenzae)

Combination of drugs are advocated—
1 Sulphadiazine and streptomycin. Suphadiazine as in pneumococcal meningits. Streptomycin—0.5 Gm. Twice daily by intramuscular injection.
2. Sulphadiazine and chloramphenicol. Chloramphenicol—250 mg capsule Every 4 to 6 hours In urgent case chloramphenicol by intramuscular injection. The dose is according to the opinion of the physician Garrod opines that chloramphenicol is the drug of choice for influenzal meningitis.
Meningitis, due to pyogenic organisms such as streptococcus, staphylococcus etc is like the pneumococcal meningitis and should be treated as such. Remove the underlying cause where possible

Tuberculous Meningitis.

Tuberculous meningitis is common in children and adults. But the incidence in children is on the increase. Drugs used are—streptomycin in combination with paraaminosalicylate or isoniazid and paraaminosalicylate. Streptomycin—By intramuscular injection—in adults—1 Gm twice daily for the first week, next 1 Gm a day for six months The dose to be modified according to the clinical improvement of the case. In children—0.25 Gm twice daily Intrathecally streptomycin—50 mgm in 5 to 10 c.c. of distilled water The volume is less than the volume of cerebrospinal fluid withdrawn. Intrathecal injection daily for first two to three weeks. But in some quarters intrathecal administration of streptomycin is discouraged as streptomycin is excreted in the cerebrospinal fluid in the state of inflammatory conditions of the meninges.
Dose of drugs—Streptomycin—40 mg per Kg per 24 hours intramuscularly for 6 months or longer until the sugar value and chloride are normal for one week and culture negative.
p—Aminosaclicylic acid—0.2 Grm per Kg per 24 hours for 6 months to one year. Isoniazid—8 mg per Kg for 24 hours in two doses for 3 months. Then 5 mg/kg/ day to the end of 8 months then 2 5 mg/kg/ day to 18 months. It is the drug of choice in children.
Intrathecal administration of tuberculin along with streptomycin intramuscularly advocated. Use of corticotropin with antimicrobial therapy is now advocated. (Etteldrot). (Flippin) Use of isoniazid in tuberculous children prevents the onset of tuberculous meningitis. Repeated lumbar Punctures are necessary to maintain a normal C. S F pressure for a long time.

Mumps (Epidemic Parotitis).

1 Rest in bed

2. Antiseptic mouth wash with any one the following chlorine water just pink solution of potassium permanganate etc.
3 Local application of Tinc. Iodin on the swollen glands.
4 Analgesic—

Re Acetyl salicylic acid—gr 5
Phenacetin —gr 2½
Codein Phosphate—gr ¼

Pulv

Sig. One powder three times a day

5 Complications.—When testes is involved it should be supported. Warmth to be applied locally Rest should be enjoyed Cortisone is advocated. (Flippin)

Gamma globulin—prepared from the mumps convalescent serum—may be used prophylactically for orchitis.

Migraine (Hemicrania ; Sick Headache)

There is no specific remedy to relieve patients with magrame headache. Nor there is any measure to prevent an attack of migraine.

This being the situation management consists of two parts—

1 An attempt to prevent occurrence of attacks as far as possible.

Prophylactic measure—(i) A migrinous patient must lead a life of regular habits. He should avoid all kinds of strains—physical or mental, (ii) Avoid straining of eyes Errors of refraction should be corrected with glasses. (iii) Diet—Avoid foods to which the patient is sensitive. Avoid—animal fat, raw fruits, chocolates eggs etc. Often the ketogenic diet is good in selected cases (iv) Bowels should be kept open. Plenty of drinks is to be taken Diuresis should be encouraged. (v) Drugs—Phenobarbital—gr ½ (30 mg) should be taken two to three times a day It is often helpful It may be continued for months with regulation of the dose.

II. Treatment during an attack

(i) Rest in bed in dark and quiet room. Apply heat or cold to the affected side to soothe. (ii) Drugs—Try analgesics first. (a) Compound tablet of acetyl salicylic acid—(I.P)—Dose—1 to 2 tablets. (Each tablet contains—acetyl salicylic acid—3½ grs phenacetin—2½ grs; Caffeine—gr½). If headache is severe—try the next compound—Compound tablet of codeine—Dose—1 or 2 tablets. (Each tablet contains—aspirin—gr 4 phenacetin—gr 4 codeine—gr 1/8). (iii) If these analgesics fail, prompt relief is obtained by the use of ergotamine tartrate. Ergotamine tartrate—(B. P)—by subcutaneous or intramuscular injection 0.25 to 0.5 mg. Ergotamine—Tablet—Dose—1 or 2 mg as a single dose. This causes contraction of the cerebral blood vessels and relieve the edema. (Stewart). Ergotamine tartrate is contraindicated in presence of hypertension, arteriosclerosis and pregnancy

(iii) In presence of allergy—antihistaminics may be tried Psychological maladjudgements are to be corrected,

Myelitis, Transverse. (Commonest type seen is syphilitic variety)

1 In the acute stage, just after the onset rest in bed.

2. Catheterization.—every six hours with proper sterility When first seen, often after long retention of urine, the bladder should not be evacuated to the last drop of urine, lest there be hemorrhage from the bladder

3 Antisyphilitic treatment.

a. Potassium iodide—gr *10 to 30 in an ounce of water*, three times a day after meals.

b Penicillin—Injection of procaine benzyl penicillin—Dose 600 000 units (U.S P) daily and intramuscularly repeated as necessary Total—6 to 10 million units.

N B Neurological symptoms due to the destruction of the spinal cord tissue are permanent and not influenced by the specific treatment.

4 Take proper care of the skin over the bony points, lest trophic ulcers should develop

5 Maintain nutrition of the patient with proper care of the diet

Myxoedema (Hypothyroidism Thyroid Deficiency Cretenism).

Early and accurate diagnosis is prerequisite to effective treatment. Hypothyroidism is common in children and adults. If the physician carries this in mind, diagnosis is easy The most effective therapy is with thyroid extract.

Pharmacopial dose—Thyroid extract—½ to 4 (30 to 240 mg) grains daily The daily dose should be given at a time. There is no advantage of divided daily dose.

For a cretin six months old—the initial dose is gr 1/10 (6 mg) Gradually the dose is increased every 2 to 4 weeks till gr ½ to 1 is reached. For children and in adults with mild hypothyroid conditions—Jackson recommends—1 grain daily for the first week to assure tolerance and 2 grains (0 12G) in the second week. Dose less than one grain is seldom of value. The treatment with thyroid extract should be life long.

Selection of the extract.—The best thyroid extract is one that is freshly prepared. It smells like meat. Every ten weeks the patient should get a fresh phail of tablets. (Jackson) Thyroid extract—3 months old should not be dispensed as it has become inert. Use always preparation of one reliable company and stick to this. Commercial preparations vary in their strengths.

Thyroid extract produces anginal pain in presence of cardiac

damage and coronary arteriosclerosis. In these conditions thyroid extract should be used with caution.

Watch for the signs of intolerance to thyroid extract—such as weakness, palpitation, tachycardia, wasting, diarrhoea etc. In presence of this condition, the dose may be lowerd or discontinued for a very short time, Sudden increase in doses should be avoided.

Failure of thyroid gland therapy is due to—insufficient dose of the drug use of thyroid extract which has lost its potency due to long storage and cessation of thyroid therapy

Morphine is badly borne by the myxoedematous patients.

Pituirary myxoedema should be treated with ACTH

Neuritis.

The commonest type of neuritis seen by the road side is due to leprosy The treatment is discussed under that heading.

1 Deficiency of Vitamin B_1—The most important thing is to inject Vitamin B_1 (aneurine hydrochloride)—25 to 100 mg. subcutaneously or intramuscularly and intravenously in cases of cardiac failure with beriberi. Initial dose should be 25 to 50 mg. When the patient can tolerate this dose, the dose may be increased Often a patient reacts—when a bigger dose is injected intramuscularly or intravenously Often, there are manifestations of dificiencies of different components of Vitamin B Complex. Here vitamin B complex—containing aneurine hydrochloride, riboflavin, pyridoxin, niacin—amide should be injected. Vitamin B complex, ampoule of a reliable chemist should be used. The dose of each ingredient is judged by the condition of the patient. Often vitamin C deficiency is seen to be associated with this. Then vitamin C should be injected. Six to twelve injections form a course. Then combined vitamin B complex tablet with vitamin C tablet may be given orally for 4 to 6 weeks.

2. Acute Infections, Toxic or Febrile Polyneuritis (Guillian—Barre Syndrome) In this case cortisone therapy is advocated (Turner) Initial dose—300 mg daily in divided doses for the first two days. Subsequent doses—200 mg daily in divided doses for another two days. Next—100 g daily in divided doses for nearly 10 to 14 days. The dose should be slowly tailed off and finally stopped Prednisone may be substituted for cortisone. 5 mg of the former is equal to 25 mg of the latter

3 Diabetic Neuritis—Neuritis in a diabetic means uncontrolled condition. Diabetis should be controlled with diet restriction and insulin therapy Next vitamin B_{12}—1000 mcg. by subcutaneous injection, daily for 7 to 10 days, If along with this there is burning feet syndrome—calcium pantothenate—50 mg should be given daily

4 Alcoholic neuritis—has been discussed under alcoholism.

5 Lead neuritis—Severe pain may be quickly relieved by intravenous injection of calcium gluconate—10% solution 10 c.c. Calcium disodium versenate—5 ml each ampoule containing 1 g in a 20% aqueous solution. It should be diluted with normal saline or 5% glucose solution—250 to 500 c.c. and injected slowly in the course of one to two hours. It should be given daily for 5 days. Rest for two days. Then given another course of 5 days Then it may be given orally

6. Other types of polyneuritis.

(i) Arsenical type—Dimercaprol (BAL) is specific for arsenic, mercury and gold. BAL—2 ml ampoule—each contains 100 mg of dimercaprol. In the first twenty four hours—100 mg to be given a every six hours by deep intramuscular injection In next four days—100 mg should be injected twice a day For next six days—100 mg daily

(ii) Neuritis—due to periarteritis nodosa—cortisone or prednison are advocated (Turner)

NEUROSYPHILIS

Prophylaxis.—Prophylaxis consists of three parts —(1) the prophylaxis of syphilis, (2) the effective treatment of syphilis in its acute stages, and (3) the treatment of so-called "asymptomatic neuro-syphilis."

Curative treatment—a. Penicillin—The course of penicillin consists of at least 5 to 10 mega units of crystalline penicillin intramuscularly over a period of ten days.

The sensitivity of penicillin should be tested before the massive doses are administered. To do this—1500 units of crystalline penicillin should be given three times a day—as a precaution against the Jarisch—Herxheimer reaction. (Martin)

b Re, Liq hydrarg perchlor—m 30-60
Potassium iodide —gr 10-20.
Aqua chloroform ad 1 OZ.

Mist.

Sig. One dose three times a day after meals.

Followed by a cup of warm milk or ghol.

OXALURIA.

1 *In presence of hypoacidity—acid hydrochloric dil—m 20* to 60 in an ounce of water twice daily after meals.

2. Potassium citrate—gr 30 to 60 in an ounce of water three times a day Lime juice is good.

3 Magnesium citrate effervescence—one tea spoonful in a cup of water twice or thrice daily

4 Oxalate free diet is advocated—e.g meat, milk, eggs, sugar butter wheat meal, rice and buscuits, cauliflower pears, peaches, melons etc. Oxalate containg diet is to be avoided such as—figs, potatoes, beetroot French beans, tomatoes, plums, tea, coffee and cocoa.

Oxalates are formed from the foods conatining oxalates from

gastric fermentation and from endogenous formation Please remember this.

In nervous cases, digestive disturbances are to be treated, attention should be given to prevent fermentation of the sugar A holiday and change of air is often required. (Langdon Brown)

PARKINSONISM.

Parkinsonism is characterized by tremors, rigidity weakness, salivation, masked face etc. The are three common types of Parkinsonism.—(1) Idopathic type—such as Paralysis Agitans seen in elderly patients.

(2) Post—Encephalitis—Lethargica type—seen in young age,

(3) Arteriosclerotic type—seen in elderly patients,

Treatment.—Treatment is palliative. The object is to keep the patient useful to his family as far as possible. Every patient should be judged on his merit and treated accordingly

General Treatment.—The patient should be encouraged to lead a normal life in homely sorroundings. Physical exercise is allowed with care. He must not injure himself His physical exercise should be always short of fatigue. There should be no strain on him. When there is spasticity and pain, heat and massage and passive movement of the part is soothing. There should be no electric treatment. Antisyphilitic treatment is to be adopted in presence of syphilis. In fact treatment consists of antispamodic drug, physio-therapy and psychotherapy

The following kinds of drugs are used —

(1) Belladona group of drugs—belladona, stramonium tincture hyoscyamine hyoscine

Belladona tincture—(B P)—Dose—0.6 to 2.0 ml (10 to 30 minims) Belladona tincture contains in 2 mls, 0.6 mg and in 30 minims about 1/100 gr of the alkaloids of Belladona Herb. calculated as hyoscyamine.

It is the oldest of remedies. The initial dose is 10 minims, three times a day. Gradually every fortnight, the dose is increased to 30 minims in each dose, three times a day. It prevents increased salivation.

Drawback—dryness of the mouth and tongue and dilatation of the pupils.

Stramonium tincture—Dose—0.6 to 2 mils. In the treatment of Parkinsonism—dose—2 to 16 ml (30 to 240 mins). Stramonium tincture contains in 2 mils, 0.5 mg and in 30 minims about 1/200 gr of the alkaloid of stramonium, calculated as hyoscyamine. *Initial dose 20 to 30 minims, three to four* times a day. Gradually the dose is increased till the full dose of 240 mins is reached. Watch for the signs of toxicity. *The drug is extolled in the treatment of post—encephalitic* parkinsonism.

Hyoscine Tablet—(B.P.). Dose—Hyoscine hydrobromide—0.3 to 0.6 mg. (1/200 to 1/100 gr). If the quantity contained in a tablet is not stated tablets containing in each. 1/200 gr shall be dispensed or supplied.

Tablet is to be dissolved in a tea spoonful of water and taken three to four times a day.

Gradually the dose is increased to 1/50 gr in each dose. Watch for the signs of intoxication. Pilocarpine—gr 1/10 to 1/6 is added to each dose of the belladona group of drugs to counteract their effects. Eserine sulphate is given as a eye drop in presence of dilatation of pupil.

(2) Synthetic antispasmodics— Artane— (Trihexyphenidyl hydrochloride) Dose—2 to 20 mg (1/30 to 1/3 gr) daily in divided doses. It is one of the best synthetic antispasmodics. It is useful in all three types of parkinsonism. Tremors and rigidity are diminished. The initial dose is 1 mg, three times a day. Gradually the dose is increased fortnightly to 2 mg and next to 5 mg. The object of the drug therapy is to use the

minimum effective dose, to reap the maximum effect with the least toxic symptoms.

(3) Antihistaminics—Recently antihistaminics are used along with artane. The drug of choice is benadryl (Diphenhydramine hydrochloride) Usual dose—50 mg (⅘ gr) The dose used in Parkinsonism—25 to 50 mg. Initially 25 mg is to be used with the dose of artane. twice daily

(4) Vitamin B Complex—is to be used particularly pyrodoxin—50 mg, three or four times a day

Besides these analgesic such as asptrin is used to relieve muscular pain.

Psychotherapy is advocated in tense situation

Sympathetic handling of the patient, encouragement and wise advice, reassurance and physiotherapy help a good deal If *the patient is bedridden take care of the skin*, Bed sores are often associated with hypoproteinemia requiring treatment.

Pellagra. Text book type of Pellagra is uncommon. Atypical or mild cases of pellagra are common. Treatment consiststs of prophylactic and curative aspects.

Prophylactic measures.

1 Diet—A well ballanced diet with high calories rich in protein—such as meat. milk, eggs, liver and substances rich in vitamin B_2 complex, e.g. marmite, brewer's yeast etc will prevent the disease

2 Curative—(a) Rest in bed, hygeinic care, good nursing are important.

(b) Diet—A high caloric diet of 4500 calories. It should contain first class protein in an assilimable form. Fresh fruits and vegetables.

(c) Specific therapy—Niacin—50 mg orally tentimes a day (Spies) Niacinamide—50 mg parenterally in normal saline, two to three times a day

The author has injected Vitamine B Complex ampoule-containing 50 mg nicotinamide, twice daily and intermuscularly Vitamin B Complex tabled each containing 50 mg of nicoti namide, 4 times a day It has cured in 4 to 6 weeks. Oral therapy should continue for some time after cure.

Caution—If niacin is given in large doses in an empty stomach, it may produce nausea, vomiting, colic, flushing, burning etc.

(d) Simple niacin therapy will not often help. It is better to use vitamin B complex therapy along with niacin therapy Peripheral nueritis if associated with pellagra should be treated with aneurine hydrochloride—25 to 100 mg daily and parenterally Similarly riboflavin deficiency—such as angular stomatitis, cheilitus, scrotal signs are to be treated with riboflavin—5 to 15 mg daily and orally

Pericarditis.

1 Rest in bed 2. Application of heat or cold to the pre cordium according to the comfort it gives to the patient 3 Treat the underlying cause 4 Specific drugs according to the etiological causes —

(a) Rheumatic fever—sodium salicylate—gr 15 in an ounce of water Every three hours for the first 24 hours. Next add sodiumbicarbonate—gr 5 to each dose of the mixture.

(b) Pneumococcal, streptococcal or staphylococcal—sulphadimidine—2 Gm Stat, 1Gm every four hours day and night. Penicillin—400,000 to 600 000 units, intramuscularly every four to six hours, next eight to twelve hours. In resistant cases tetracylines or erythromycin.

(c) Tuberculous—Streptomycin—0.5 to 1.0 Gm Daily intramuscularly Isoniazid—200—300 mg daily in divided doses. Paraamino-salicylic acid—(PAS)—8 to 12 Gm daily in divided doses.

No intravenous injection should be given in presence of pericarditis with effusion.

6. Diet—Small and repeated feeds with nourshing diet containing vitamins, protein hydrolysate and other nutrients.
6. Paracentesis, in presence of indication

Peritonitis, Tuberculous.

1 Rest in bed Nourshing diet. Well ventilated room.
2. Specific drugs—streptomycin, isoniazid and PAS Doses as written before. Treatment should be continued for six to eighteen months.
3 Hypoproteinemia—In presence of marked hypoproteinemia intravenous alimentation with glucose and protein hydrolysate besides the specific therapy

Pharyngitis, Acute

1 Rest in bed in presence of fever
2. Warm saline gargle In presence of tanacious mucus, gargle with warm sodiumbicorbonate lotion (one tea spoonful of sodium bicarbonate in a pint of hot water)
3 Penicillin lozenge to suck, one every three to four hours.
4 Sulphadiazine to be taken.
5 If the cough is dry and distressing—sodium bromide—gr 5 to 10 sodium salicylate—gr 5 to 10 Aqua ad 1 OZ. Thrice daily Steam inhalation with tinc benzoin co

Pharyngitis, Chronic.

1 The treatment should be local and general.
2. Treat infections in the sinuses, naso-pharynx and oral sepsis.
3 Alcohol and smoking are interdicted.
4 Normal saline or alum gargle are advocated,

5 Local application—Mandl's *pigment or 3 to 5 per cent* Silver nitrate Mandl s pigment

Re, Iodine—gr 6.
Potassium iodide—gr 12.
Olei menth pip—m 5
Acid carbolic liq—m 5
Glycerin ad—1 OZ.

Pig.

Sig. To be applied two to three times a day locally in the pharynx.

6 Codliver oil with malt. Ferrous sulphate—or *ferrous* gluconate—1.5 Gm daily in divided doses, after meals in presence of anemia.

7 Avoid dust and smoke.

Phosphaturia.

1 Treat the underlying cause—e.g. cystitis, alkali treatment *of gastric ulcer etc.*

2. *To render the reaction of* the urine acid—acid sodium phosphate—gr 30 to 60 m an ounce of water, three times a day

3 The following mixture is very helpful to counteract depression.

Re, *Acid phosphoric dil—m 15*
Tinc nux vomica—m 5
Aqua anethi ad ½ OZ.

Mist.

Sig. One dose three times a day after meals. It should be well diluted with water

4 When the deposit *of phosphates makes the patient* anxious, it is better to restrict calcium intake by restricting—milk. eggs. fish, fruits etc. Food poor in calcium such as meat, potatoes cereals is given.

4. Control hyperchlorhydria when present.

Plague.

Treatment consists of two parts—Prophylaxis and curative.

Prophylaxis.—Destruction of rats and rat fleas. Inoculation with Haffkin's plague vaccine. It is better to take the vaccine and retire to bed. Aspirin—gr 5 may be taken to diminish the pain and reaction. Two doses are to be taken at the interval of a week. Immunity lasts for 6 to 12 months.

Curative. 1 Isolation of the sick. Good nursing. The attending nurse must use gloves, approns and face mask. The patient must not exert.

2. Diet—Frequent feeds—light nourishing diet with vitamins, protein hydrolysates, honey etc.

3. Control of temperature with sponging and ice cap

4. Specific treatment—with sulphonamides and streptomycin. Sulphadiazine—4 Gms stat 2 Gms every 4 hours day and night for the first 24 hours. Next 1 Gm every four hours day and night. It should be followed by plenty of gulucose, sodiumbicarbonate and water to ensure free diuresis.

Streptomycin—Dose—0.5 to 1.0 Gm intramuscularly every six hours for the first twenty four hours. Next it should be given every eight hours. Next every twelve hours.

Sulpha group of drugs to be continued for at least two to three days after the temperature becomes normal. The sputum should be stained and examined for B. pestis. When it is repeatedly negative the treatment is to be stopped.

4 Bubo or swelling of the glands—such as tonsil etc (Guha) Application of iodine locally Cataplasma kaolin to apply locally Aspiration in presence of fluctuation. Injection of streptomycin into the gland after aspiration

Pleurisy Acute Dry

1 Rest in bed till the temperature comes down to normal.
2. Diet—light, nutritious. 3 Treat the underlying cause when present specifically with chemotherapy antibiotics etc.
4 How to relieve pain ? The following are some of the means to give relief—

(a) When the area of dry pleural friction is small—apply mustard plaster Preparation of mustard plaster—Measure the areas of application. Make a piece of paper or cheese cloth equal to the area of application. Take a paste of mustard powder fresh from a new phial of mustard* with cold water The paste is spread over the cloth and applied over the area for five minutes by the watch. If it be kept for a long time, blister will form.

(b) Application of cataplasma kaolin compound and changed every twelve hours.

(c) When Pain is great—The part should be strapped with adhesive plaster Cut the piece of adhesive plaster-length from the sternum to just beyond the vertebral column, and the width of the piece is two inches. Clean the part. *If there is hair* please shave it nicely Ask the patient to expire and hold breath after expiration this is the time to apply the adhesive plaster It should be from the lowest point of the thorax, where the pain situated. The next strip should be placed above the lowest one in such a way that an inch of the lower strip is covered. In such a way the whole area of plural friction is strapped. It gives immediate relief It should be kept not more than five days Stripes should be taken slowly by moistening the inner surface with methylated spirit.

4. Injection of morphine—gr 1/8 to 1/6 hypodermically is often necessary to relieve acute pain. Or orally Dover's powder—gr 5

5 Intravenous injection of calcium gluconate—10 per cent solution—5 to 10 c.c. with vitamin C (100 to 200 mg) daily or in alternate days Or Calcium chloride—5 per cent solution—2 to 5 c.c with iodine (equal to ½ to 2 mins of Tinc iodine). Daily or in alternate days.

6 Dry cough—Syp Codeine phosphate—m 30 to 60 in an ounce of water

Pleurisy Dry Chronic

1 Treatment in the same line as before

2. The following application is very useful—Measure the area. Apply Emplaster Hydrargyri Cum Ammoniacum on a piece of Cheese Cloth- Keep it at least for a week with a bandage over it.

Pleurisy with Effusion

1 Rest in bed, with a back rest when necessary

2 Diet—Light nutritious diet, protein hydrolysate, restriction of fluid.

3 Treat the underlying cause specifically

(a) When due to tuberculosis—treat with streptomycin, isoniazid salt of PAS or isoniazid and PAS as written before

(b) When due to bronchogenic carcinoma—intrapleural administration of nitrogen mustard and also systemic treatment with nitrogen mustard. Treatment with radioactive colloidal gold. All these are palliative (Weisberger et al) (Hatch et al) Dose of nitrogen mustard—0.1 mg per kilogram of the body weight. Intravenously Initial dose—4 to 5 mg. It is better to administer it in saline infusion by drip method

4 Paracentesis—Indications—(a) Severe dyspnoea, (b) displacement of the mediastinal contents (c) when the dulness

and diarrhoea, and staphylococcal superinfection with resistant organisms.

(c) When the organisms of known sensitivity such as Friedlander's bacillus—Streptomycin. Dose—1 gm every eight or twelve hours, then 0.5 to 1 gm twelve hourly for four days. Along with this chloramphenicol—1 Gm, Every six hours, orally or parenterally Drawbacks of the drug—vertigo and deafness, vomiting and diarrhoea, skin lesions and often staphylococcal superinfections

(d) When the organism of known sensitivity such as penicillin resistant staphylococci,—erythromycin. Dose—0.3 gm six hourly for five days. In severe cases, the dose may be increased to 0.6 gm. Drawback of the drug—vomiting and diarrhoea.

N B Other sensitivity reactions and drug resistance are apt to develop if treatment is repeated or prolonged.

6. Symptomatic Treatment.

(a) Sleeplessness—Any one of the following may be given

Re, Chloral hydrate—gr 10—20.
Sodium bromide—gr 15
Aqua chloroform an ½ OZ.

Mist.

Sig. To be taken twice daily—at noon and at bed time

Re, Paraldehyde—m 60 to 120
Syp aurantii—m 60
Aqua aurantii floris ad 1 OZ.

Mist.

Sig. To be taken at bed time.

Paraldehyde—m 120—240 in four ounces of normal saline or olive oil, to be given per rectum with a rubber catheter at bed time.

N B. In serving the prescription test the reaction of the paraldehyde with a blue litmus paper and be sure that it is not acid.

(b) Cardiac failure—(i) Peripheral failure—which is commoner—injection of adrenaline tartrate—m 2 to 8 subcutaneously every four to six hours. (ii) In presence of congestive type of cardiac failure complicating pneumonia—digitalis therapy is indicated. Cases that are seen in the medical ward are cases of cor pulmonale Glucose solution—10 per cent strength with digoxin or ouabin, intravenously and slowly when needed.

(c) Constipation—Following enemas are recommended—(i) Normal saline—two pints. (ii) 30 c.c. of hydrogen per oxide per liter of water

(d) Tympanitis—Turpentine stupes to the abdomen.

(e) Cyanosis or when the respiration rate is double the normal rate—oxygen inhalation through the two nasal catheters in a private house through Douglas Bag in a hospital.

7 Treatment of complications as they arise

(i) In severe intoxication shock may supervene —levarterenol (Levophed) is indicated. It is used as bitartrate by intravenous infusion in a concentration of 4 mg per liter so that 4 mcg is injected every minute It should be given with great precaution so that not a drop is extravasated As it acts on the smooth muscle of the vascular walls, its infusion in the lower extremities. particularly in the aged should be avoided. (Austrion)

(ii) In presence of overwhelming infections when death appears imminent, when other measure to modify shock have failed and when control of the infecting organism with antibiotics appears feasible. Doses—of 50 to 100 c.c. of aqeous adrenal cortex extract or 25 to 50 mg of hydrocortisone given intravenously every six hours may be administered until clinical improvement results

5 (c) When the organism is— H. influenzae it is susceptible to the inhibitory effects of several antibiotics including chloramphenicol streptomycin and the tetracyclines.

(f) Treatment of viral pneumonia—Tetracyclines—0.5 to 1.0 Gm every six hours or 2 Gms a day given parenterally Chlor tetracycline, oxytetracycline, or tetracycline (Austrion)

Pulmonary Infarctions. (Moersch)

Prophylaxis.—As pulmonary embolism tends to appear from the sixth to fourteenth day after operation, early ambulation is used now-a-days.

Treatment—

(i) Pulmonary infarction with shock—treatment like all other shock. Intravenous use of papaverine and atropine. Inhalation of oxygen.

(ii) Pulmonary infarction without shock—

(a) Relief of pain with codein. If this fails chlorpromazine hydrochloride—intravenously in dose of 50 mg every four hours

(iii) Anticoagulant therapy

(a) Heparin—50 mg intravenously every four hours till the prothrombin time be brought under control 10 to 30 per cent of the normal. Dicumarol—should be used along with this heparin. First day—300 mg. Second day—100 mg Then 50 to 100 mg daily as mintenance dose. Daily determination *of prothrombin time is essential to regulate the dose of anti*-coagulant.

(iv) If infection of the infarct should occur antibiotics of the proper type should be employed.

If one bears in mind the possibility of pulmonary embolism with or without infarction the diagnosis becomes easy If the pulmonary embolism is suspected, treatment should be started immediately Treatment should be cotinued for 10 to 14 days continue the anticoagulant treatment till the patient is ambulant and the clinical symptoms have been absent for two to three days.

Pulmonary Emphysema.

In general, pulmonary emphysema is characterized by increased lung volume, impairment of elastic recoil or inefficient alveolar ventilation and depressed low position of the diaphragm. Often the condition is associated with chronic bronchitis or asthma. The exchange of oxygen and carbondioxide is seriously impaired. The arterial oxygen saturation in some cases may be between 75 to 95 per cent at rest or if normal at rest, during exercise. There is often ventilatory and alveolar insufficiency due to bronchiolar and alveolar duct obstruction. These obstructions are due to intrinsic disease of the bronchioles bronchial secretions, bronchospasm and loss of elastic tension in the supporting parenchymal structures. (Barach)

Treatment. Palliative.

General—The patient should be in warm, dust free, well ventilated room. The position of the body should be in the best comfortable one. Diet should be small but repeated feedings. Milk, eggs, channa, butter vitamins A, D and C. Fruit juice. Antiseptic gargle before and after feedings.

Specific—There is no specific remedy for diffuse obstructive pulmonary emphysema.

Treatment of secondary infections—In two ways. First—If there is systemic infection it should be treated with parenteral use of proper anibiotics to which bacterias are susceptible. Second—If the infection is mild, oral treatment of penicillin with 500 000 units three to four times a day for some days are helpful.

Symptomatic treatment—

(a) Anoxia—Intermittent use of oxygen inhalation preferably in a oxygen tent or double nasal catheters, giving six liters of oxygen per minute. Avoid carbondioxide narcosis.

(b) Bronchial constriction—aminophyllin—0.2 to 0.5 g well

diluted with glucose solution intravenously and slowly in the acute stage In the interval—

Re, Aminophyllin

or

Cholin—theophyllinate—3 gr (0.2 g)

Ephedrine hydrochloride—gr ½ (30 mg)

In powder form.

Sig. To be taken twice daily—before breakfast and at *4 P.M In the evening*

(c) When the bronchial secretion is dried up or there is tenaceous mucus, Potassium iodide—gr 5 to 7½ in an ounce *of warm water or milk fourtimes a day In the morning and* in the evening—sodium bicarbonate—gr 10 (0.6 g) and sodium chloride (table salt may do)—gr 10 (0 6 g) in a cup of hot water to take by sip.

(d) When asthmatic attack is severe, not amenable to aminophyllin and ephedrine therapy Pearson recommends—prednisolone therapy[4]—5 mg each tablet, to be given every six hours for the first day Next for four to five days, one tablet should be given in the noon and at night before retirement. Then with little amelioration of symptoms, one tablet to be given at night. Next it may be given in alternate days. The drug should not be stopped suddenly but be tapered off slowly It is contraindicated in presence of peptic ulcer diabetes mellitus and tuberculosis.

Areosol therapy therapy is also advocated—with adrenaline—2.25% in normal saline with oxygen inhalation. Isoproterenol—*0 5 to 1 0% is also used*

(e) Depressed low position of the diaphragm—Several things are done to counteract this. They are—(I) Mechanical compression of the lower lateral thorax. (II) Postural treatment—is allowed to lie on a bed—the foot—end of the bed is raised. The patient lie on his abdomen. It helps to drain the bron-

chial secretion and also helps the diaphragm to be in a high position due to the weight of the abdominal contents. (iii) Use of abdominal binders below the umbilicus It helps better aeration and ventilation.

Treatment of complication

Treatment of cradiac failure including Cor Pulmonale.

The following are the contributing factors for the development of Cor Pulmonale in a severe case of pulmonary emphysema—restriction of pulmonary vascular bed arterial hypoxia, polycyth emia and hypervolemia. Principle of treatment is like any form of cardiac insufficiency—such as digitalis glycoside, low salt diet and diuretics. New diuretic—chlorathiazide—helps excretion of sodium, water and potassium when bigger dose is used or when used for days. Daily dose—0 5 th 2.0 g. in divided doses. When the daily dose is—1 to 3.0 g. potassium chloride, 1 g. three times a day should be given in sweetened water

Chlorothiazide does not produce refractoriness. In presence of cyanosis or anoxia—oxygen inhalation should be given. At the begining, one liter per minute gradually increase the amount according to necessity and improvement. Avoid car bondioxide narcosis.

Pulmonary Tuberculosis.

Tuberculous remains a chronic infectious disease. It requires long and continuous treatment and pulmonary tuberculosis is not an exception to this.

1 Rest and nursing care should be accorded to the patient

2 Nutrition—A well balanced diet is necessary Where nutrition is poor besides the easily digestible and nutritious diet by mouth intravenous alimentation with protein hydrolysate is an important adjunct to treatment

3 Atimicrobial therapy—Antimicrobial therapy is indicated in all cases of active tuberculosis. But if the only evidence of

infection is positive to tuberculin, antimicrobial therapy is idicated in the infancy only Because the risk of meningitis following primary infection is high in infants, and it is believed that it may be prevented by isoniazid. Standard course of treatment recommended by the Committee on Therapy (American Trudeau Society)

1 Three drugs are advocated in the treatment of tuberculosis—e.g. streptomycin, isoniazid, and para-aminosalicylic acid. (P.A S)

Streptomycin—Dose—0.5 to 1.0 Gm.
Current opinion is that streptomycin—1 Gm dose daily is more *effective than when used intermittent, particularly in combination of isoniazid for the treatment of patients with severe* disease.

Streptomycin should be used daily for one month to one year or more, next followed by intermittent dose. Complications involving the ear are more commonly seen with large doses specially in the older age group or people with renal impairment

Isoniazid—Isoniazid is the most effective drug in the treatment of tuberculosis, when given in an adequate dose in combination with one or more of the other drugs. It produces the best result available at present. Isoniazid penetrates the cells and act on the tubercle bacilli within the leucocytes. The combination of drugs—such as—streptomycin and isoniazid streptomycin, isoniazid and P.A.S. isoniazid and P.A.S—are all nice combinations therapeutically These combinations of drugs prevent drug resistance of tubercle bacilli and work well.

Isoniazid—Dose—100 mg thrice daily after meals. Recent knowledge has shown by bioassay that isoniazid is metabolised in the human system as acetyl isoniazid—an inert form having no

action on tubercle bacilli. This acetylation of isonlazid varies in different systems.

Signs of toxicity of isonlazid are seen when given in bigger dosage (such as 12 mg per Kg of the body weight) Toxicity is neurogenic in nature. It yelids to pyridoxin treatment. The idea stands that all seriously ill patient should be treated with daily intramuscular injection of streptomycin plus isonaizid in high dose (300 mg daily) with or without P.A.S. early in course until the positive sputum is converted into negative then revert to conventional dosage.

Para-amino-salicylic acid (P.A.S.)—Daily dose—8 to 12 Gm in divided doses. Recently it has been shown by bio-assay that PAS is converted into inactive forms in the human system like isoniazid. Many patients do not take PAS regularly when prescribed. It can be detected by testing the urine for PAS.

Once started antimicrobial treatment should be continued without interruption as long as medically indicated. Treatment should be continued at least from one and half to two years.

In the present day—steroid hormones—cortisone and prednisolone etc—are used with sucess, when they are used with antimicrobial drugs—in tuberculous meningitis, miliary tuberculous when they do not respond satisfactorily after ten days of appropriate drug therapy and in critically ill patients with rapidly advancing pulmonary tuberculosis. (Flippin)

2 Occupational therapy and rehabilitation are necessary when the patient is fit to go out. 3 When the sputum is positive, the patient should be isolated In the afebrile stage long follow-up is necessary to see that the patient in the society is really harmless and non-infective. 4 The patient should be educated and he must understand his condition.

7 The improvement should be assessed by the clinical, radio-

logical hematological pictures. The sputum to be declared negative should be after repeated examinations—microscopical and cultural.

8 Tuberculosis in childhood

Isoniazid—5 mg per Kg of the body weight and 0.5 to 1 Gm of streptomycin (according to the body weight) twice weekly or 0.25 to 0 5 Gm of PAS sodium per Kg body weight daily or both, and they should be continued for at least one year

Tuberculin Reactors—In infants under two years of age, who have a positive Mantoux test, isoniazid alone is recommended, given daily 5 mg per Kg of the body weight in three divided doses, for one year (Pfuetze and Desantes)

Pyelitis, Acute and Pyelonephritis.

1 Rest in bed. To be kept warm. Avoid chills.

2 Diet—Liquid plenty of fluids so as to increase the urinary output Nutrition should be maintained, if necessary with intravenous alimentation with least taxation to the kidney

3 Constipation—Mild laxative—such as pulv glycyrrhizae Co —*gr 60—120 in cup of warm water or milk.*

4 Specific treatment—Chemotherapy and antibiotic according to the nature of the organism present.

Gantrisin, Sulphacetamide, sulphdimadine—2 Gms initially followed by 1 Gm every four hours with plenty of liquid, alkalies and glucose.—Rc Potassium citrate gr 60.
Tinc hyocyamus—m 60
Aqua ad 1 oz.
Mist.

Sig One dose every 4 to 8 hours.

Penicillin—for penicillin sensitive organisms. Similarly streptomycin for susceptible organisms. Similarly tetracyclines are used.

Rat-bite fever

1 Penicillin—Penicillin G—in beeswax and aminostearate—600,000 units intramuscularly twice daily for four days.
3 If the patient is seen early aseptic dressing of the wound.

Renal Tuberculosis.

1 General hygeinic treatment with good food, in the same line as in case of pulmonary tuberculosis.
2. Rest in bed.
3 Specific treatment—Four chemotherapeutic regimens are now acceptable. (T Sanitorium Com)
(i) Streptomycin (1 Gm twice weekly) plus isoniazid (5 mg or more per Kg per day) plus PAS (12 Gm) daily for one continuous year or more. Similar is the regimen of others. (Lattimer et al)
(ii) Streptomycin (1 Gm twice weekly) and PAS (12 Gm daily) for one continuous years or more This regimen will usually arrest minimal renal lesions which show no deformity by pyelogram.
(iii) Streptomycin (1 Gm twice weekly) plus isoniazid (5 mg or more per Kg qer day) for continuous one year or more
(iv) PAS (12 Gm per day) plus isoniazid (5 mg per Kg per day) for one continuous year or more.
4 Progress is checked by the examination of the urine—bacteriologically by guineapig inoculation, pyelography sedimentation rate of red blood cropuscles.

Rheumatic fever Acute

1 Absolute rest in bed
2. Diet—Light nutritious, will vitaminised diet with plenty of citrus fruits

3 Good nursing is essentially necessary He should be helped to turn from side to side.

4 Ice cap on the head in presence of high temperature and tepid warm water sponging.

5 Specific drugs—sodium salicylate, acetyl—salicylic acid and hormones—ACTH cortisone, corticotrophin, hydrocortisone etc.

The average daily dose of sodium salicylate and acetyl-salicylic acid in an adult is—8 to 10 Gms in twenty four hours given in divided doses along with half the amount of sodiumbicarbonate In a child aged twelve years in acute condition—8 Gms of sodium salicylate can be given in twenty four hours (Saslaw).

Re, Sodium salicylate—gr 15—20
Sodiumbicarbonate—gr 7½—10
Aqua ad 1 OZ

Mist.

Or Re Acetyl salicylic acid—gr 15
Sodium bicarbonate—gr 7½
Aqua ad 1 OZ.

Mist.

Sig. One dose every two hours for the first twelve hours, next one dose every four hours.

The dose and the interval to be regulated according to how much the patient is relieved of his pain in the joint, fever etc. Signs of toxicity should be taken into account in regulating the dose. If there is any history of bleeding from the nose or gum vitamins C and K_1 should be given. It is said that addition of sodiumbicabonate lowers the salicylate blood concentration.

Hormones—Cortisone and ACTH produced a favourable response in many of the other important manifestations of

rheumatic fever These manifestations included fever polyarthritis, elevation of sedimentation rate, subcutaneous nodules, pericarditis, prolongation of the P R interval and congestive heart failure.

Hormones should be given early and in good doses and for a pretty long time within the limit of safety (Massell)

The dose of hormone as advocated by Wilson and Lim

Corticotropin—25 units, by intramucular injection every six hours for four days. 20 units—every six hour intramuscularly for three days. Total—80 to 100 units daily

Cortisone—Orally—100 mg daily in divided doses for four days 80 mg daily in divided doses for three days.

Hydrocortisone—Orally—80 mg daily in divided doses for four days 60 mg daily in divided doses for three days.

There should be no early ambulation. Rest should be enforced till the temperature is persistently normal, pulse rate during sleep normal, sedimentation rate normal, electrocadiographic changes normal.

6. Locally—the inflammed joint should be immobilised in the position of maximum comfort, if necessary by splints. Locally kataplasma kaolin co can be applied and changed twice daily

7 Congestive heart failure during the acute phase of rheumatic fever—should be treated with digitalis. Many failures of digitalis therapy in children were due to that children require a larger proportionate dosage than adults. (Saslaw).

8 During convalescence for anemia—vitamin C with ferrous sulphate ex or ferrous gluconte—gr 3, three times a day may be given.

9 Treatment of sore throat as prophylaxis against rheumatic fever —In the acute stage of the upper respiratory infection treatment should be with penicillin and sulphadiazine. Penicillin may be given orally or parenterally for seven to ten days. Sucessful prophylactic use of penicillin and sulphadiazine against rheumatic relapses is strong evidence that streptococcal infection is no less important in reactivating than in initiating the rheumatic process, yet serological proof of this has been lacking. (ED Lancet)

As the number of initial and recurrent attacks of rheumatic fever falls sharply at adolescence and as highest percentages of recurrences occur within five years of the last episode of the attack, the American Heart Association advoctes that all children with a history of rheumatic fever should be constantly mintained with medication until the age of eighteen years. (Saslaw) In the case of a known rheumatic patient developing a superimposed streptococcal infection, early intensive treatment with large doses of penicillin over a ten-day period is recommended (Chronicle W H O)

10. The management of the convalescent stage of rheumatic fever is marked by watchful waiting. It is essential to keep a close vigil in search of the minor changes that may indicate recrudescence of the disease. Constant vigilance is the price safety

Ritter's Disease.

It is said to be due to viral infection. The disease is characterived by urethritis, conjuctivitis and arthritis. Chloramphenicol is said to be useful.

SKIN DISEASES.

Acne Vulgaris—(Acne vulgaris is a chronic inflammation of the skin. It involves the sebaceous glands and pilosebaceous

follicles. It is the commonest skin disease appearing at puberty It is characterized by oily seborrhoea, comedones, papules, nodules and in severe cases cystic lesions.)

Treatment consists of three parts—general internal and local.

1 General treatment—Good hygeinic care is necessary Cold bath, physical exercise, outdoor games, massage of the face with soap and water and buoyancy of the mind are very wholesome

Diet—Well balanced diet containing plenty of fruits, vegatables. Vitamin B complex is useful Vitamin A is necessary Sour milk, curd (dhal) should b included in the dietary Avoid—excess of carbohydrates, sweets, fats, tea etc.

Clothing—Furs and woolen garments aggravate the condition. Patients should be advised accordingly Iodides and bromides *are not to be given*

Treat the etiological factors such as—hypo-functions of the endocrine organs, seborrhoea infections constipaton malnutrition, allergy sensitiveness to chemicals, medicines etc

Treat associated anemia constipation, achlorhydria, infection of the upper respiratory tract. Cut down the overweight.

2. Internal treatment—Guaiacol carbonate gr 5 or oil of cresote—m 1 with mica panis in pill from, to three time a day

3 Local treatment—Avoid—cold cream oily preparations and steaming of the face.

Lotions are the best to start treatment Such as —

Re

Zinc sulphate —gr 10

Potassi sulphurata—gr 10

Aqua camphorae ad 1 OZ.

Lotio send eight such

Sig. It should be well shaken and a little poured into a saucer It is dabbed on to the affected areas with a piece of linen and allowed to dry the deposit of the powder being well

rubbed in with the dry hand. To be applied every six to eight hours.

Requisite amount of sulphur may be given in calamine lotion. Such as

Re, Precipitated sulphur—gr 60
Camphor —gr 2½
Tragacanth —gr 5
Lime water —m 240.
Aqua ad—1 OZ.

Lotio

Sig. Shake and use as before.

To remove black-heads, sulphur—gr 10 may be added to this.

For exfoliation, the following are useful —

Re, Sulphur precipitate—gr 10—15.
Eucerin ad—1 OZ.

Sig. To apply on the face at night.

Re Acid salicylic —gr 20.
Sulphur precipitate —gr 20.
Resorcin —gr 20
Zinc oxide —gr 120.
Eucerin ad—1 OZ.

Misce Paste.

Sig. To apply at night before retirement.

Draw back—Unsightly But it is good peeling agent.

Pus to be evacuated from the pustules and they are dabbed with any one of the sulphur lotions —

(i) Re, Sulphur precipitate—gr 10
Lotio Calamine ad—1 Oz.

(ii) Re, Sulphur precipitate—gr 20.
Spirit camphor —m 15.
Lime water ad—1 OZ.

Position of vaccine and chemotherapy—Secondary infections are due to staphylococci. Vaccine and staphylococcal toxoid help a few cases only Sulphonamide and penicillin should not be used locally They make the orgnisms more resistant to subsequent therapy (Downing) If needed penicillin may be given parenterally

Hormone therapy—There are advocates of hormone therapy in this malady A crystal of oestradial—200 to 250 mg. To be implanted under the skin Severe pustular acne is soon brought under control In the male, the draw-back to its use is production of gynaecomastia and supression of libido. These can be remedied by withdral of the crystal In the femle, Barber uses it for ten to fourteen days after menstrual period the dose varies for individuals The untoward result of this is suppression of menstruation for nearly two months followed by menorrhagia. (Ingram)

Physiotherapy—Ultraviolet rays are useful Refractory cases yeild to X'ray therapy Local and general treatment should continue with physiotherapy

Impetigo Contagiosa—(Impetigo contagiosa is an acute pyogenic infection of the skin caused by staphylococcus. It is contagious and auto-inoculable A bullous type is occasionally seen, especially among infants. Face is the common site of attack but it may attack any part of the skin).

Treatment—1 Surgical cleanliness and antisepsis must be observed.

2. Take particular care to sterilize pillow cases, towels, and working materials.

3 Local treatment.

(a) Soften the impetiginous crusts with warm olive or mineral oil Next Wash gently with soap and warm water Or wash with 2 per cent boric acid solution or 8 per cent aluminium

acetate solution or compress with 1 in—1000 acriflavin solution.

(b) Apply any one of the following ointments.

(i) Penicillin cream (250 units per Gm) every two to three hours.

(ii) Re, Salicylic acid —2 parts
Precipitate sulphur —2 parts
Petroleum qs—30

Misce

Sig Apply locally every three hours.

In rapidly spreading cases penicillin sprays (500 units to 1 c.c.) and penicillin ointment to apply every two to three hours. N B Sulphathiazoll ointment is not to be used.

4 Bullous impetigo of the new born infant—(also described as pemphigus neonatorum). Mild case—Compress with warm potassium permanganate solution (1 in 12,000) and next paint with 1 per cent aqueous solution of gentian violet. In malignant type—penicillin—parenterally

Proper feeding and special nursing care are very important.

5 Pediculosis Capitis—Children should be examined for pediculosis capitis, a frequent complication when lesions are present on the neck and limbs. For Pediculosis—apply locally Cuprex (Merck) It destroys the ova also.

Infantile Eczema.

One must remember that the treatment of infantile eczema is an individual problem.

1 Treat the etiological factors if present such as nervous factor allergic factor, and external irritants ,etc. Woolen clothes are to be avoided.

2. Diet—Perfectly normal diet is advocated. (Warin). If by careful watch a mother can find that a particular article increases or predisposes to the malady it should be controlled.

3 In the nerve strung—to ensure good sleep sedatives are indicated such as phenobarbitone sodium, bromide or chloral hydrate.

4 Local application.—Local therapy is of first importance. In the acute stage all ointments should be avoided.

(a) In the weeping stage.—When there is exudation, wet dressings should be applied such as—lead lotion (B P C.) to to be dabbed on or applied with a sterile piece of gauze every two to three hours solution of aluminium acetate (1 in 20) normal saline solution, warm milk, 2 per cent boric acid solution alone or combined with a small amount of corn starch.

Prevention of infection and excoriations by scratching is very important. The finger nails should be cut short, and the child restrained by elbow splint. Soap and water must be avoided.

After the wet dressings, when the exudation is little controlled, the next step is calamine lotion B. P with 0.5 per cent phenol followed by a mild past such as—

Re. Zinc oxide—2
Hydrolysed Cornstarch—13
Petroleum qs—30.

For large areas a calamnie liniment is invaluable (Downing)

The skin may be cleansed with mineral or olive oil.

(b) Paste may be kept on the face with a linen mask. Gauze should be avoided. When the eruption becomes subacute—Zinc oxide paste (N F) or Lassar's paste may be used. In presence of severe pruritus the following may be used—

Re, Solution of coal tar—4
Zinc oxide —
Calamine —aa 15
Olive oil —100
Bantonite (B. P C.) (6 % in lime water)
to make 250.

The use of coal tar preparation is a boon in therapy No distillate can replace a good crude coal tar preparation. The following is highly recommended—

Re, Crude coal tar—2.
 Zinc Oxide —2
 Corn starch —15
 Petroleum —15 (C. J White).

It should be applied three times a day one application over the previous one, and then entire area cleansed once a day with oil. Bathing should be restricted as much as possible. If necessary bran bath or corn starch bath may be given but not soap and water No method of desensitization has been proved to be of value. No child with active eczema should be vaccinated against small pox since it might be fatal. (Downing).

5 Secondary infection—Secondary infection of the eczematized may occur with various organisms of diverse types. The most common is the secondary impetigo The following are recommended.

Re, Hydrarg ammoniata —gr 10
 Zinc Paste —
 Hydrous emulsifying
 ointment B. P —equal parts to 1 OZ.

or 2 5 per cent solution in water or alcohol of gentian violet or 5 per cent sulphathiazol ointment, to apply three times a day

Ung.

Sig To apply locally three times a day after proper cleaning: Chlortetracycline ointment— 2 per cent in hydrous emulsifying ointment B P will remain active for a few weeks and is effective when other measures fail. When the infection is severe penicillin or sulphonamides parenterally are indicated. In most of the commercially available antibiotic ointment, have a greasy base and the antibiotics are unstable.

6. Refractory cases—In refractory cases, cortisone and it derivatives have been introduced in the treatment of eczema. In refractory cases, hydrocortisone—1 per cent preparation is preferred In some cases 2.5 per cent is necessary and in some lower percentages are sufficient. In presence of exudation, lotion is perferred When the skin is dry and scaly greasy base is preferred. Thin smear is to be applied very gently with sufficient friction, every six hours. When the itching is very severe at night it is better to ayply it before retiring to bed. (Warin).

Scabies.—(Infestation of the skin with Sarcoptes scabiei.)

1 Essential part of the treatment of scabies—is to treat the patient and to prevent relapses from the inmates of the house and also from the clothes used by the patient.

2 Following are the steps to be followed for the treatment of scabies in forty-eight hours.

(i) Stripe off all the clothings. Send them and also bed sheet, towel, etc for sterilization by boiling.

(ii) A hot bath. Scrub with soap and a nail brush. Break down and soften the horny layer of the skin. This will allow the sarcoptes to be exposed from the depths of the burrows.

(iii) Apply 25 per cent benzyl benzoate emulsion B P from the neck downwards. It will include all parts of the skin. Allow it to dry up. A second application is also given.

(iv) Put on a new set of clothes and do not change them for forty-eight hours

(v) Change the clothes after forty-eight hours and send them for disinfection

(vi) For young children it is better to admit them for the hospital treatment.

N. B. To ensure full eradication all the inmates of the house should be treated at a time and all the clothes, bed linens

etc should be sterilized *Gamma benzene application N. F* (O 1 percent gamma benzene) is as effective as benzyl benzoate and is used in the same manner (Warin)

The sulphur treatmtment—Take off all the clothes. Treatment begins with a prolonged hot bath and scrub with a nail brush, soap and water Burrows *of the insect should be readily* destroyed—that is the aim The hands should be thoroughly scrubbed with soft soap Next the same to be applied more gently to the axillary region, genitals and other parts where the acari are prone to burrow After the skin is dried, the sulphur ointment ung. *Sulphuris.* B. P *(10 per cent strength)* For young children—5 per cent strength is rubbed well into the parts which have been scratched most severely The patient is directed to sleep in tight fitting underclothing. This clothing should be used for three days, and the ointment should be rubbed morning and night for three days. The whole body is to be rubbed with the ointment from below the *chin to the toes. After the third day second hot bath should* taken. If there is a return of itching, the hot bath, soap friction and sulphur inunctions may be repeated. In very chronic cases, the ointments to be applied for five days and is to be followed by a hot bath and fresh clothing.

The use of sulphur powder in place of ointment is used by many It is more agreeable method of treatment in private practice. It is capable of curing most patients except a few chronic cases. It can be easily dusted over the bed and under clothing and can prevent relapse. (Fox)

Sulphur rarely produces any irritation of the skin when eczema is not present, but such a possibility be kept in mind.

In cases of children, the strength of the sulphur oinment should be half of adult.

If impetigo complicates scabies, besides the specific treatment of scabies penicillin parenterally is advocated

General health of the patient should be looked after

Fungus infection of the skin—(due to Tinea cruris etc)

Tinea pedis knows as athlete's foot is the most frequent of all fungus infections There are three clinical types—acute, subacute and chronic. The treatment resolves into three parts—(a) during the acute stage whether the lesion is pustular or eczematous in appearance the infection is secondary to ringworm but the septic condition (due most often to streptococci or/and staphylococci) has to be treated first. Local application—any one of the following—compresses of boric acid, 1 in 4 000 solution of potassium permanganate every four to six hours one alternating with the other 1 1000 acriflavin solution is also favoured Every four to six hours Drawback—it will stain clothes. When pruritus is severe—Lotio calamine with 1 per cent phenol is the drug of choice In addition, for severe secondary infection—bed rest, elevation of the part and intramuscular penicillin are indicated. When the acute stage is past, inflammation subsided it is better to apply calamine lotion in the day time and apply the following at night (Acton and McGuire)

Re, Zinc oxide— gr 20
Starch — grs 30.
Adeps lanae hydrous } ½ an ounce of each
Liq petroleum pure }

Or 1 per cent gentian violet aqueous Solution.

In the subacute stage the treatment is as before

Prophylactically the following powder should be used

Re Salcylic acid— 0.6
Boric acid — 8
Starch — 12.
Powdered talc—to make 120

To dust the feet.

N B Not to be used if the patient is a diabetic one.

In the chronic stage—keratolytic agent is to be used as the following—

Re Benzoic acid —1 8
Salicylic acid —0 9
Wool fat —1 9
White petroleum qs —30

Re, Acid salicylic —6 per cent (gr 30)
Sulphur precipitate —3 per cent (gr 15)
Wool fat ad 1 OZ.

Sig The best way to apply the ointment and remove the greater part of it with tissue paper leaving only a thin film on the skin.

(b) Treatment of the ringworm below

Tinea corporis—ringworm of the smooth skin. Glabrous skin. Remove the scales by scraping or by washing with soap and water

The following local application are advocated—Strong soultions—

(I) Liniment iodine. (Ii) Tinc iodine with 10 per cent acetic acid (Mcleod). After about a week, the fungus is destroyed These should be followed by

Re, Acid salicylic —gr 10.
Sulphur precipitate —gr 10
Vaseline alba ad 1 OZ.

Sig. To apply locally at least for two weeks more.

In delicate skin, local application of iodine may be strong, in that case Whitefiled's ointoent is advocated.

Re, Acid Benzoic—3 to 6 per cent. (15 to 30 grs)
Acid Salicylic—3 to 6 per cent. (15 to 30 grs)
Vaseline albo ad 1 OZ.

Ung.

Sig. Mix with equal amount of cocoanut oil and then apply

Mango toe—The most intractable type of all is the interdigital variety with white thickened skin between the toes. (Mcleod) Soak the toes in salt water or if there is oppertunity wade through the sea water to macerate the skin and to help penetration of the drug.

The drugs advocated—(i) 2 to 3 per cent silver nitrate in an ounce of Tinc. benzoin co. Dry the part and apply with a brush for at least three weeks. After cure it is to be continued for one week.

(ii) Advocated by Acton and McGuire—

Re. Resorcin —gr 60
Tinc Benzoin co —ad 1 OZ.

Sig To apply locally with a brush every night.

N B. It may produce irritation and inflammation when it should be stopped. It should be followed by 2 per cent boric acid ointment.

Tinea Cruris—or 'Dhobie itch Jockey itch is a circumcribed, well—demarcated infection of the crual region and inner thighs, usually caused by epidermophyton.

(i) If there is oozing and pruritus in the scortal region—apply lotio calamine with 1 per cent phenol Or 4 per cent resorcin in calamine lotion

(ii) If there is painful fissure in the inguinal region—paint with 3 percent silvernitrate in spirit or tinc benzoin co Morning and night By this treatment cure is produced in two to three weeks.

(iii) To make cure permanent, any one of the following applications are advocated. —For ladies. a. Tinc iodine—diluted 1 to 4 with alcohol—painted morning and night.

For gents—Tinc iodine in 60 per cent alcohol.

b Local use of ½ strength of Whitefield s ointment.

c. Re, Acid salicylic—gr 10.
Sulphur precipitate—gr 25
Vaseline alba —ad 1 OZ.

N B. It is very important that underclothing should be sterilized by boiling every day freshly used to prevent reinfection.

Tinea Unguinum—ringworm of nails—usually accompanies *tinea infections elsewhere in the body* Treatment is prolonged and difficult. The infected nail should be scraped or removed by filing. Two types of infections are seen—one due to mould and another due to yeast,

For mould infection—Any one of the following applications are advocated. —20 per cent chrysorobin in chloroform, 2 per cent thymol in chlorofrom, 2 per cent iodine in alcohol

For infection due to yeast—Candida (Monila) albicans. Treatment—soak with 1-4000 potassium permanganate solution, thrice daily Dry up and apply 1 percent gentian violet solution.

Tinea barbae—rinworm of the beard. It is a stubborn chronic infection of the beraded area,—face and neck. except the upper *lip.*

Treatment—(i) Sterilization of the shaving articles.
(ii) Manual epilation.
(iii) Compresses—hot boric or permanganate solution.
(iv) Application of 5 percent ammoniated mercury ointment.

Tinea capitis—rinworm of the scalp—common in childhood.
Two types of infection—Animal and human.
Animal type—Treatment—*1* Daily shampoos, 2. Manoual (*M lanosum*) *epilation. 3 Local application of ointment*—
5 per cent ammoniated mercury or 5 per cent salicylic acid and sulphur
Human type—Epilatation by X' ray

Keratolysis plantare sulcatum.—(due to Actinomyces keratolytica, N Sp)

It infects hands and feet in people who work barefooted in soil This fungus is found in cow-dung and horse-dung. Clean the part and dry up. Next apply any one of the following local applications —

Re, Formmaldehyde—m 60
Glycerin ad 1 OZ.
Mft. Glycerini.

Sig. To apply locally with cotton swab twice daily during the midday and during night for three weeks.

(I) 5 per cent gentian violet. To apply locally after cleaning and drying up twice daily for three weeks. (Acton and McGuire) Modern treatment is with an antibiotic—Nystatin. Nystatin is derived from a soil actionmycete streptomyces noursei. Mycostatin (Nystatin—Squibb). Each tablet contains—500 000 units, three umee a day for three weeks at least. To be continued even after apparent clinical cure. There is a chance of relapse after early cessation of treatment with arpparent cure. Local application of Nystatin ointment is advocatated

In fungus infections such as tenia capitis, tinea pedis, tinea cruris preparations containing certain fatty acids—particularly undecylenic and propionic acids are useful and relatively non-irritating. Over-treatmrnt should be avoided

In refractory cases—X ray treatment is advocated.

Tinea versicolor—Treatment—1 Swabbing the part, several times a day with saturated solution of sodium thiosulphate. Or

2, Applicalion of ointment—containing 2 percent each of precipitated sulphur and salicylic acid. Morning and evening Prevent reinfection by sterilising the undergarments.

Seborrhea. Seborrhoeic dermatitis,

Treatment.—In treatrent a few things are to be remembered.

(i) The scalp is the primary site of the disease.

(ii) Treatment of the scalp should be continuous. It is very difficult to eradicate the disease from the scalp. It can be controlled.

1 Hair should be cleanly washed with—a soap and spirit lotion as

Re, Sapo mollis—1 part.
Spt Vini rect—2 parts.
Tinc of lavender—m 60.

Allow it to dry up and next wash with water and dry up. Shampoo may be done with soap nuts (sapindus trifoliatus) infusion. Locally sulphur is almost the specific remedy for most seborrhoeic dermatitis. 5 to 10 per cent generally used. In acute cases 30 per cent sulphur paste may be used.

For persistent seborrhea of the scalp, the daily use of the following lotion is advocated.

Re, Hydrarg perchlor—gr ½
Euresol —gr 15
(Monoacetate of resorcion)
Spt aetheris —m 30
Spt rosmari —m 60
ol recini —m
Perfume —q s.
Aqua rose —ad 1 OZ.

Resorcin or its compounds should not be used on blonds or grey hair Salicylic acid should be substituted for resorcin.

On the glabrous skin the following is useful.

Re, Acid salicylic —gr 5
Sulphur precipitated—gr 10.
Vaseline alba —ad 1 OZ.

If there is considerable moisture in the axilla, groins etc, bathe with 1 4500 potassium permanganate lotion. It is followed

by 3 percent hydrarg ammoniata ointment. It is soothing and helpful.

2. Diet—Low fat diet with plenty of vitamin B complex should be taken.

Regular physical exercise and good amount of sleep are useful

Pruritus

Treat the underlying cause when present such as the parasites involving the skin, metabolic disease renal disease senile skin disease etc Make thorough examination of the patient and try to find out the cause if any Local applications must play an important part. They are ointments, creams or lotions. Simple calamine liniment with 1 per cent phenol or coal tar may suffice Sometimes warm sponging with alkaline solution such as sodiumbicarbonate—gr 60 to a pint of of water (hot) Allow moiture to dry up To be followed by ½ per cent menthol in talc powder as dusting powder The following cream is often us ful. (Williams).

Re Pehnol
Menthol —gr 5
Zinc oxide —gr 10
Wool fat —gr 240
Solution of lime —gr 60
Oil olive —m 10
—½ OZ.

Two percent of champhor can replace the phenol or the menthol. Wool should be kept away from skin. For pruritus anl in a small spot—not bigger than than the size of a four anna silver bit the following application is advocated—2 to 3 per cent silver nitrate in spt etheris nitrosi is advocated.

Pricly heat. (Milliaria)

1 Apply light clothing on the body Vitamin C—100 mg every day orally

2. Avoid excessive heat and perspiration Try to lower the immediate environmental temperature of the patient.

3 Frequency of bathing should be reduced and no hot water should be used.

4 The following powder should be lightly dusted with a powder puff over the affected areas after the morning bath. (Acton)

Re,	Sulphur	—1 part.
	Camphor	—1 part.
	Acid Boric	—1 part
	Zinc oxide	—2 parts.
	Starch	—3 to 4 parts.

Too much rubbing of the sulphur powder on the skin to be avoided lest dermatitis may set up.

Corns

Corns are common in the feet, particularly on the little toes, great toes etc. due to tight shoes.

The following is to be applied over the corn, with a brush when retiring.

Collodium Salycylicum Co. (B P C.) Syn. Corn paint Composition—Salicylic acid 12, Extract of Indian Hemp 2, Acetone 30, Acetone collodion to 100 A painless solvent for hard and soft corns.

Small-pox

Treatment of small-pox is divided into two parts—(I) Prophylactic (II) Curative,

I. Prophylactic treatment—Small-pox vaccination is done with live attenuated cow-pox virus. Vaccination and re-vaccination every year are the basis of conferring immunity against small-pox. Primary vaccination may be done when the baby is one month old or earlier in presence of an epidemic.

II. Curative treatment is divided into four parts—(a) Generally

(b) Specific. (c) Symptomatic. (d) Complications.
General management.
(a) Isolation of the sick. Thorough disinfection of the infected room and clothing. Vaccination of persons, who come in contact of the patient. (b) Careful nursing. (c) Hygiene of the mouth should be attended to Antiseptic gargle before and after meals.
(d) Care of the eyes and nose.—Eyes should be looked after. If necessary eyes should be irrigated with sterile normal saline. To prevent sticking of the lids—ung hydrarg oxide flava, or ung boric acid, or in presence of marked infection (bacterial) terramycin ointment may be applied with a glass rod. The nose may be swollen and edematous and painful. Often hot or cold compress may be necessary to give relief. Nasal cavities may be lightly swabbed with sterile cotton swabs and sterile liquid paraffin or ung hydrarg oxide flava may be applied.
(e) Diet—Liquid and bland food. Milk may be given. It may be citrated in presence of nausea or vomiting. Plenty of drink in presence of hyperpyrexia. Green cocoanut's water may be given plentifully as long as the sun is up. High protein diet in presence of poor nutrition in the form of protein hydrolysate and vitamin supplements. In presence of dysphagia tinc benzoin co inhalation is advocated before meals. Dehydration is to be combated with infusion of 5 per cent glucose solution. Loss of electrolytes is corrected by infusion of Ringer's solution, Ringer Lactate solution etc.
In severely ill patients protein hydrolysate infusion may be given, preceded by skin sensitivity test. Vitamins may be added to this.
Specific treatment.—
There is no specific against small-pox virus. But we have got antibiotics to cope with the secondary invaders such as

streptococcus, staphylococus pneumococcus etc. Broad Spectrum antibiotics may be given 1.5 to 2 g daily in divided doses.

Penicillin—600,000 units daily intramuscularly for about a week when necessary

In the last small-pox epidemic in Bombay in 1958, mortality was very high in children, pregnant women and in the puerpurium. In these cases, antibiotics may be used as prophylactic and curative agents. In presence of marked leucopenia, proteolysed liver extract—may be injected intramuscularly every day or on alternate days till the leuco-yte counts come to normal.

Symptomatic treatment.

Symptomatic treatment is also essential in this fell disease as there is no specific.

(a) Hyperpyrexia—Ice cap on the head. Sponging with tepid warm just pink solution of potassium permanganate. If necessary rectal drip with ice cold sterile normal saline solution

(b) Sleeplessness, delirium and restlessness—

Re Chloral hydrate—gr 10—20.
Syp glucose —m 30.
Aqua ad 1 OZ.

Or Re, Paraldehyde —m 120
Syp aurantii —m 60
Aqua ad —1 OZ

Sig. To be taken at bed time.

In urgent cases, phenobarbitonum sodium—0 2 to 0.3 g in 5 ml of water or 2 to 5 ml of paraldehyde—intramuscularly

(c) Constipation.—Better to use normal saline enema—two pints at a time. Severe constipation is treated with mixture of oils enema—castor oil liquid paraffin, ground nut oil—total 6 to 8 ounces.

(d) pain in the body—is relieved byCodene Co tablet.

(e) Circulatory stimulants for peripheral circulatory failure—adrenaline tartrate injection nor adrenalin infusion etc.

(f) Dyspnoea—Oxygen inhalation in presence of anoxia

(g) Hemorrhage—(i) Primary form—of hemorrhage into the vesicles was very high in the last Bombay epidemic. Subconjuctival hemorrhage was the earliest premonitory sign. The fatal course of this form was unaffected by any therapy—whether cortisone derivative in high dosage achromycin or any other antibiotic (Herrlich) But this hopeless state can be faught by intravenous injections of vitamin K in presence of ..igh prothrombin time or in-jection of vitmin C 1000 mg in saline infusion. when subconjunctival hemorrhage is seen. To have the blood grouping ready blood trausfusion at the earliest opportunity

(ii) Secondary form—which comes about in 2 to 10 days, is amenable to cortisone therapy if started early (Herrlich).

Complications—Complications involving the respiratory tract, such as primary pneumonia in the early stage and in the suppurative stage marked signs of bronchitis, bronchopneumonia, laryngitis and pharygitis, should be treated as they arise Painful urination or defecation diarrhoea and purulent genital discharge in some patients indicated that the intestines, bladder or vagina were also affected They should be treated in the general way

Scales.—Crusts should be soaked with warm alkaline solution They should not be removed too quickly lest scars are formed. Patients are to be regarded as infectious until all the scabs are separated and the mucous membrane and the skin are properly healed Patients should not be allowed to come out with scabs on. This spreads the the disease. Thick scabs in the soles of the feet may necessitate removal by scissors.

Syphilis.

Penicillin has revolutionised the treatment of syphilis at the present time. *In the B. P 1958, arsenicals, bismuth and mercurial* preparations used in the treatment of syphilis are *deleted. Three* preparations of penicillin are in common use for slow absorption—*Procaine penicillin* in oil with aluminium monostearate. N—N[1] dibenzyl ethylene diamine *dipenicillin* G —Benzathine penicillin N—benzyl—2—*phenylethylamine* salt of benzyl penicillin—Benethamine penicillin.

Pugh used the last two *salts of penicillin in children*

Benthamine penicillin—A single injection, corresponding *in dosage to that of procaine penicillin* will *maintain a level of* approximately 0.25 unit/ml for twenty-four hours and falling gradually will sustain a bactericidal *level* above 0.05 unit/ml for approximately five days.

Benzathine penicillin—has been used orally (with results comparable to the soluble salts) and parenterally A single intramuscular injection, equivalent to 10,000 units per pound (22000 units per Kg) body weight, will maintain bactericidal levels in the blood serum for at least a week, with traces per *sisting in many patients for as long as one* month after administration.

Treatment of Early Syphilis.

Primary syphilis—Procain penicillin G in oil with 2 per cent aluminium monostearate (PAM) is used in the treatment of syphilis. Dose—4·8 to 6.0 million units of penicillin. Daily one intramuscular injection of penicillin—600 000 units spread over eight to ten days. It is often followed by ten bi-weekly injections of 900,000 of penicillin in same type.

In the secondary stage the dose is high and the best results are obtained with 9.6 million units. (Cutler and others)

In the treatment of late syphilis in the sea-men, Willcox

recommends twelve to fourteen daily intection of 900.000 units of the same type of penicillin. (PAM)

Kolmar advocates the use of iodide along with penicillin treatment.

In the treatment of cardio-vascular syphilis, Beerman et al advocate 9 to 10 million units of penicillin spread over ten to fourteen days. PAM is the safest agent. From the reaction stand point—it was un-necessary to prepare the the patient with iodides. Favourable effects were seen on aortic diastolic murmurs, paroxysmal dysponea etc.

Neurosyphilis.—Generally daily intramuscular injection of penicillin 600,000 units for ten days. Total six Mega units. It is increased to 12 to 15 Mega Units in fifteen days in many clinics (Nicol) Malaria in addition to penicillin added nothing to the final outcome in a group of patients similar to a group treated with penicillin alone (Tilley).

Ideal—therapy is—Improvment of clinical signs and symptoms. Cerebro-spinal fluid becomes nomal—in cellular count and and protein content. Serological titers become normal. But only the serological test is no t to taken into account, (Thomas).

Ocular syphilis—(a) Syphilitic interstitial keratitis—Topical application of cortisone and injection of penicillin (PAM)

(b) Optic atorphy—Penicillin and malaria therapy

Prevention of congenital syphilis,—

4.3 milion units of penicillin, in total, should be given if the diagnosis is made in the first six months of pregnancy 600,000 units intramuscular injection daily for eight days. For ambulatory patients, injection should be given for ten days—total six Mega units. If the patient is already in labour 2.4 million units should be given immediately and repeated in a

week. Recently the German author Obeme advised a "prophylatic course" of penicillin—12 Mega units during subsiquent pregnancy irrespective of the treatment she has already received, of the results of tests and the condition of her previous children. In an analysis of 420 treated syphilitic mothers, Obeme found thirty two syphilitic children in the above series were born of seronegative mothers

Treatment of early congenital syphilis should be managed by the administration of 10,000 units of penicillin per pound of the body weight daily for ten days. The total dose about 2 21 millon units. Late congental syphilis total 6 0 million units (Tilley). A note of warning is sounded by some authority that *very heavy dose of penicillin may do harm to a baby* Every case should be judged on its own merits.

Reactions after penicilin—Reactions—penicillin are on the increase. They are—shock, anaphylactic reactions, even death, urticaria, serum-sickness-like reactions with fever arthralgia and malaise and various rare types of reactions such as exfoliative dermatitis blood dyscrasias, periarteritis nodosa and disseminated lupus erythematosus. To avoid these—previous history of sensitiveness to penicillin should be enquired of Keep adrenalin handy (Friend and McLemor).

Tetanus.

Treatment of tetanus—curative and prophylatic.
Prophylactic treatment of Tetanus,

Prophylaxis against tetanus in the healthy people—children and adults are brought on *by active immunization* with tetanus toxid alum precipitated and formol. In the adults—alum precipitated toxoid is used more commonly Dose—Initial dose 1 0 ml. Subsequent dose—1 0 ml. To be injected subcutaneously

or intramuscularly Interval between the injections—six weeks. Booster dose—to be given six to twelve months after the second. In the army the booster dose is given every year In the civilians—it may be given every two to five years. In the children—the commonest antigen used is Tripple vaccine—Toxoids of diptheria and tetanus and wooping cough vaccine. Dose—Initial—0.5 ml. Four to six weeks after—1 0 ml. Booster dose when the child goes to school at the age of five Another booster dose is at the age of ten

Prophylaxis of tetanus in people who are wounded or injured.

(a) In persons who had no active immunzation before. —If a person is seen immediately after the injury—tetanus antitoxin 1500 units should be injected subcutaneously after testing for serum sensitivity If the wound is contaminated—Initial dose is 3000 units of antitoxin. If the patient comes after a long time after the reception of the injury the dose of antitoxin increases from—5000 to 12000 units. If it is seen that the wound will take a long time to heal or contaminated it is wise to inject tetanus antitoxin every seven days for three doses. In an unmmunized person toxoid or antibiotic should not replace tetanus antitoxine. Wound should be made surgically clean.

(b) In persons who were immunized before—tetanus toxoid should be injected in one site and tetanus antitoxin—1500 to 3000 units in other site

In deep penetrating injury compound fracture etc, Ramon advocates tetanus antitoxin—20,000 to 30,000 units to be injected in one site and tetanus toxoid—1 c.c. In another site two weeks after 2 c.c. of tetanus toxoid should be injected intramuscularly two weeks after 3 c.c. of toxoid. two or three weeks after another 4 to 5 c.c. of toxoid to be injected. Idea is that the passive immunity conferred by the antitoxin will soon be eliminated and the within two weeks after the second

injection active immunity will develop and there will be least chance of the development of late tetanus.

Another explanation is—any antigen taken by the patient before the injection of tetanus antitoxin the antigen taken before, hastens the elimination of the antitoxine. (Playing Wright) In such cases penicillin should be injected also

Treatment of a case of tetanus—Principles of treatment are —1 Isolation of the sick in a dark room 2. Careful nursing. 3 Sedation. 4 Tetanus antitoxin. 5 Surgical interference of the wound, 6. Tracheotomy 7 Nourishment of the patient—fluids electrolytes, caloric value when necessary intravenous alimentation. 8 Chemotherapy

1 The patient should be isolated and kept on a firm mattress. The room should kept dark. Whole time careful nursing is imperative.

2. Sedation—The object is to ensure rest to the patient by controlling muscle spasm and acute tetanic seizure.
Drugs are to be administered per rectum.

Re, Chloral hydrate—gr 20
Sodium bromide—gr 15.
Aqua ad 2 OZs.
Sig. Every two to three hours
Re Paraldehyde—½ to 1 OZ.
Normal saline—8 OZ.

N. B. Be sure that paraldehyde is neutral to litmus paper

Sig. Every four hours.

In presence of urgency the following drugs advocated intra venously sodium amytal—0.25 to 0.5 Gm in 10 to 20 c.c. of pyrogen free distilled water or Pentothal sodium—freshly prepared solution—1Gm in in 30. c.c. of distilled water slowly To be stopped when muscle is relaxed.

3. Tetanus antitoxin—Serum sensitivity test must be per formed before the administration of serum In the presence of sensitivity desensitization should be done slowly Two schools of opinion are there—(a) When the patient comes under treatment—tetanus antitoxin—100,000 to 200 000 units should be injected intravenously slowly with normal saline. *To neutralize the circulatory toxin as quickly as possible.*
(b) 40,000 to 50,000 units Intravenously 40.000 to 60,000 units intramuscularly 10 000 to 20 000 units by local infiltration, round the wound after procaine hydrochlor injection Dose to be repeated according to the judgemnt of the case. N B Once the tetanus toxine becomes fixed to the tissue cells no amount of antitoxine can be dislodge it
(4) Surgical interference—At least an hour should elapse after the injection of tetanus antitoxin before surgical measure are adopted. The wound be kept open and clean surgically and not sutured.
(5) Tracheotomy is indicated in presence of difficulty of air entry and repeated attacks of laryngeal spasm
(6) Nourishment of the patient—Careful attention should be given to keep up the nourishment of the patient. If feeding is not possible through a gastric tube, when the patient is under the influence of sedative, intravenous alimentation should be done with glucose solution, Ringer's solution, protein hydrolystate etc.
(7) Chemotherapy—Penicillin can be administered as prophylaxis against pneumonia It cannot replace tetanus anti toxin but may help the antitoxin by its bacteriostatic effect.
(8) The total dose of tetanus antitoxin to cure a tetanus patient is very high. Under author's treatment a boy of five was cured with 2,90,000 units of tetanus antitoxin The cost is high in a poor country More attention should be focussed for active immunization with toxoid.

(9) After the clinical cure, prednisolone—5 mg daily may be given to put off late allergic reaction of the serum.

Tetany

1 Treat the underlying cause

2. Calcium therapy —In acute cases—calcium gluconate—10 per cent solution, 10 to 20 c.c. intravenously every six to eight hours.

Orally—calcium gluconate or lactate—2 to 4 g, three times a day after meals.

3 Calciferol (Vitamin D_2)—2000 to 20,000 units daily (0.05 to 0.5 mg) daily

Watch the result by estimation of the calcium content of the blood from time to time, to avoid hypercalcemia.

4 Diet—should be well balanced, with milk, dextrine etc.

5 Parathormone—In adults—20 to 30 units, subcutaneously two to three times in first twenty four hours. In infantile tetany may be relieved by 5 to 10 units subcutaneously It should be followed by intravenous calcium therapy

Thrush.

1 Care should be taken to ensure cleanlines of the teat and comforter

2. Gentian violet—1 per cent solution in water To be applied three times a day for three days with soft camel's hair brush.

Tonsillitis, Acute.

1 Rest in bed in the acute stage when there is high temperature

Diet—Semisolid warm food is better according to the taste.

3 Local application—on the neck warmth or cold as is liked by the patient

4 Gargle is advocated where the patient can gargle. Warm normal saline or aspirin—gr 10 in a tumbler full of worm water several times a day

5 Following mixtures are advocated

Re	Sodium salicylate		—gr 15
	Syrup rose		—m 30
	Aqua chloroform	ad	1 OZ

Mist

Sig. One dose every three to four hours for three to four doses.

Re,	Acetyl Salicylic acid		—gr 10 to 15
	Sodium bicarbonate		—gr 10
	Ext glycyrrhiza liq		—m 30
	Sodium bromide		—gr 5
	Aqua	ad	—1 OZ

Mist.

Sig. One dose every four hours for three to four doses.

6. Specific for streptococcus hemolyticus.

Re	Sulphadiazine	—2 Grm
	Sodium bicarbonate	—gr 10
	Dextrose powder	—gr 10

Pulv

Sig. One powder every four hours followed by a glass of water.

In severe cases penicillin injection is advocated. In children Penicillin V each tablet 200 000 units. 3 to 4 tablets a day for 10 days. (Breese & Disbey)

Tonsillitis, Chronic.

1. In children—Tonsils are to be removed in presence of its

indications. Followed by a diet—rich in vitamins, codliver oil, high protein etc.

II In adults.—Where surgical removal of tonsils is not possible the tonsillar crypts should be pressed with a tongue depressure and crypts, evacuated of pus or massage of the tonsils morning and evening, with mustard oil and finely powdered table salt.

Application of Mandl s pigment.

Re,	Iodin	—gr 6
	Potassium Iodide	—gr 12
	Olei Menth pip	—m 5
	Acid Carbolic Liq	—m 5
	Glycerin ad	1 OZ
Mft.	Glycerini	

Sig. To paint the tonsils in an empty stomach, two to *three times a day*

Typhoid Fever (Consult Enteric fever)

Typhus Fever

(Early diagnosis is very important. In presence of high continued temperature, *the army routine is to examine the blood* smear—thick and thin films for malarial parasite every two hours, if repeatedly negative, blood culture should be done for *typhoid group of fevers, if it be nagative* blood is sent for Widal reaction in the uninoculated and at the same time blood is sent for Weil-Felix Reaction and for Brucellosis).

Principles of treatment.

1 Absolute rest in bed.

2. Nursing and dietetic care are like the typhoid fever Plenty of fluids should be given. Nourishment is to be kept up.

3 Specific—oxytetracycline, chlortetracycline and chloram-

phenicol. Oxytetracycline is preferred. Daily dose—2 Grms. 0.5 Grm every six hours. To be continued at least for two days after the temperature is normal

Ulcerative colitis.

Ulcerative colitis is an acute and chronic inflammatory and ulcerative disease of the colon and rectum. (Kirsner). The etiology of the disease in not known. Proctoscopic and X'ray examinations of the rectum and the colon help diagnosis. The disease occurs in two forms—(i) Acute—(a) mild, (b) fulminating.

(ii) Chronic—marked by recurrence. The pathological condition of the intestine takes a long time to heal. Treatment should be a long continued process. Treatment is nonspecific, symtomatic and comprehensive. Patience, perseverence and equaminity are required of the physician who handles such a case because besides the anatomical lesions of the intestine, mental condition of the patient plays a great role in this condition.

Treatment

1 Rest in bed Mental rest is an essential part

2. Hospitalisation in the acute fulminating state Skilful nursing is essential.

3 Sedatives—phenobarbtal—gr ½ (30 mg) four times a day is very ufeful To ensure sleep—sodium seconal and sodium amytal, in equal proprotions—100 mg at bed time In some patients tranquillisers are often used.

4 Antispamodics—to reduce the spasm and hypermotility of the intestines—tinc belladone—m 10 in half an ounce of water three to four times a day Atropine sulphate—gr 1/200 to 1/100 several times a day are time honoured remedies. Application of hot water bag to the abdomen is often soothing To

relieve severe pain, the following mixture is often prescribed by by older physicians.—

Re.	Liq hydrarg perchlor	—m 10
	Mucilage acacia	—q s.
	Tinc cannabis Indica	—m ½
	Tinc belladona	—m 5
	Tinc Opii Camphorate	—m 5 to 10
	Aqua Anethi Conc	—m 5
	Aqua add	—½ OZ.

Mist.

Sig One dose every hour for 3 to 4 doses.

Often two doses bring relief

If pain is very severe—morphine or papaverine with atropine injection may be needed

5 Management of emotional problem is an Important step.

6. Diet—Principles. Bland food free from irritant—mechanical, *thermal or chemical, high protien and nutritious and easily* digestable.

He should avoid red attah (powered wheat), roughage, chillies, spices, sour foods, alcoholic beverages etc. Vitamin deficiencies are corrected by parenteral administration of vitamins, Intravenous alimentation with protien hydrolysate when necessary

7 Correct the loss of electrolytes. Excessive diarrhea may lead to loss of electrolytes and water They should be replenished parenterally by infusion of Ringer-lactate solution, 1/6th molar solution of sodium lactate, glucose 5% in normal saline calcium gluconate solution—10%, etc.

8. Iron deficiency anemia is corrected by intravenous or intramuscular administration of iron salt. Chronic loss of blood may produce profound anemia requiring tranfusion of concentrated red blood corpuscles or whole blood. Prolongation of protbombin time due to associated liver disease or due

to defective intestinal absorption may be remedied by the parenteral administration of vitamin K

9 Sulphonamides and antibiotics.

Sulphonamides orally are often of immense help. Preparations generally used are—phthalylsulfathiozole or succinyl sulfa thiazole 8 to 12 G daily in divided doses along with A. C. T H

Sulphadiazine retention enema is good—1 to 2 G in 30 to 60 ml of distilled water or normal saline. Tetracycline—1 G daily in divided doses is often useful. It is not to be continued long lest side effects are seen. Penicillin (1 to 2 millions a day) and streptomycin (1 to 2 G daily) are indicated in presence of high temperature. Orally penicillin should not be given it may aggravate the condition. (Kirsner)

10 Corticotropin (ACTH) and Adrenal steroid therapy

Steroid therapy is an adjunct to other treatment when it is used with caution It is an advancement in treatment. Every case should not be treated with adrenal steroid hormone unless there is strong indication for this

Indications of adrenal steroid therapy in ulcerative colitis

(1) Severe disease, recurrence in spite of treatment acute fulminating colitus, and the presence of arthritis, iritis and erythema nodosum.

Contraindication—in presence of perforation of the intestine, peritonitis and abscess formation

Steroid therapy

(a) Corticotropin—30 mg intramuscularly every six hours. (120 mg a day) In selected cases—the dose may be increased to 160 to 200 mg daily ACTH—10 to 20 U S P units in 500 c. c. of 5% glucose in distilled water every 12 hours.

(b) Orally hydrocortisone is often given—200 mg daily in divided doses but it is less effective.

(c) Rectally—hydrocortisone sodium succinate (100 or 200

mg) in 15 to 250 ml of water or normal saline and prednisone (15 to 30 mg) together with *phthalylsulfacetamide in 15 to 30* ml of water

Clinical and proctoscopic improvements have been observed within 7 to 10 days. Opium or morphine or codeine may be required to facilitate retention of the steroid solution.

Steroid therapy should be continued *for* a *long time* and gradually tappered off. Always watch the untoward side effects and stop the drug when present

The important causes of death in ulcerative colitis are—perforation of the intestines with peritonitis, hemorrhage, overwhelming infection, carcinoma of colon, and surgical complications.

Caution. The use of antiamebic drugs *for* presumtive amebic *infections is ineffective in ulcerative colitis and often increases* the abdominal discomfort and the diarrhoea.

Surgical considerations—Absolute indications for surgical interference are—perforation of the colon, extensive polyposis. carcinoma persistent massive hemorrhage and stricture of the colon with obstruction.

Undulant Fever (or Brucellosis)

1 Prophylactic method. Goat's milk should be thoroughly *boiled before it is taken.*

2. Curative Treatment.

(a) Isolation of the sick. Careful nursing. Proper care of the diet.

(b) Specific drugs – Sulphadiazin and streptomycin combined *best is chlortetracycline (aureomycin).*

Ten days course of full doses of sulphadiazine and streptomycin —1 g to 2 g a day with proper care.

Chlortetracycline—0. 5 g. every six hours for ten days.

(c) Treat the complications as they arise.

Urinary tract infections.

The most commom pathogens of the urinary tract are Escherichia coli. Staphylococcus aureus, Proteus, Pseudomonas Aerobactoraerogenes, entrococci and Friedlanders's bacilhus. The majority of bacterial infections in the male urinary tract are of bacillary origin, E coli an organism that responds to almost any form of treatment, pridominates as a cause. Drugs advocated—multiple sulfonamide preparations (triple sulfona mide combinations such as—sulphadiazin, sulphamerzine sul phamethazine sulfadiazine, sulfamethazine, sulphanilyl beza mide sulfathiozol, sulfadiazine and sulphamethazine and fulfisoxazol (gantirsin) streptomycm, methenamine mandelate For staphylococcus—drugs advocated are penicillin erythromycin, nitrofurantoin. For proteus infection—nitrofurantoin, chloramphenicol For pseudomonas aeruginosa—chloamphe nicol polymyxin streptomycin and mandelic acid

Urine should be rendered alkaline by adminstration of potassim citrate or other alkalinizer in dram dose fourtimes a day Triple sulphonmide combination— 1 g or sulfisoxa zole (ganturan)—1 5 g every six hour for five days followed by alkalies, Fluid should be taken three liters a day After the urine is determined to be sterile that drug must be continued at one-quarter to one-half the curative dose for at least a week or ten days.

Methenamine mandelate either 0.25 or 0.5 Gm, tablets four times a day for a total daily dose of 2 Gm. This drug is harmless and can be used indefinately Fluids should be limited to 1500 c.c. daily and the pH ot the urine should be determined daily by nitrazine paper A pH of 5.5 or less is essential to effective treatment. Mathanemine mandelate therapy is also effective in infections with other coliform organismes and staphylococci. For staphylococci, penicilline—300,000 units

of crystalline and procaine penicillin daily for eight to ten days. Streptomycin, due to its toxicity is reserve for those cases of coliform infections in which other measures have failed A five day course should usually be adequate. Daily dose—0 5 to 1 0 Gm intramuscularly Better results are obtained if the urine is made alkaline by administration of potassium citrate or other alkalinizer

Chlortetracycline, oxytetracycline and chloramphenicol have been found useful.

These antibiotics have been equally effective against most gram-negative bacilli.

For Proteus infection—chloramphenicol—250 or 500 mg tablets four times a day for no longer than four days and repeated if necessary if the patient has not had any reaction from this. Nitrofurantoin—in doses 50 to 100 mg four times a day for no longer than four days, has been found effective against Proteus infections at times when other agents have failed. Reaction of the urine in Proteus infection is alkaline.

For staphylococcus infection—penicillin parenterally and erythromycin in doses of 50 to 100 mg four times a day for four days.

For Pseudomonas—polymixin, Streptomycin and mandelic acid are effective,

With treatment, after the urine is found to be sterile, the drug must be continued at one-fourth to one-half the curative dose for at least for seven to ten days.

Urticaria.

1 Rest in the bed in servere form.

3 Bowels to be kept open with a laxative or saline purgative.

3. Eliminate the offending agents where possible such as drugs, serum injections of penicilline, insulin liver extract etc.

4 Antihistamines—to be used, The following are advocated Promethazine hydrochloride—25 mg once or twice a day
Mepyramine maleate—100 mg three times a day
Benadryl—50 mg twice or thrice after meals.
Pyrabenzamine—50 mg twice or thrice daily after meals.
In using the antihistamine gradually lower the dose watching the side effects

5 Older remedies—Injection of adrenaline tartrate (1 1000) —2 to 4 mins Every 15 to 30 minutes. Ephedrine—½ to 1 gr orally or subcutaneosly Calcium gluconate—10 per cent solution—10 c.c intravenously and slowly

6. A, C. T H and cortisone—are indicated when conservative treatment fails. A. C T H.—15 to 20 mg in a pint of 5 per cent glucose solution or normal saline, by slow intravenous drip method, taking 8 to 10 hours for the injection This is followed by oral cortisone—25 mg twice daily after meals for 7 to 10 days. Or Prednisone—5 mg, four times a day

7 Local treatment—Local application of lotio calamine with 1 per cent phenol,

8 Diet—A lacto-vegetarian diet is advocated.

Wasp and bee scorpion stings.

1 Examine the site of bite with a hand lens. Take out any sting present,

2. Local application of liquor ammon fortis paste of sodium bicarbonate, permanganate concentrated solution.

Local injection by infiltration—2.5 per cent solution of procaine hydrochloride Emetine hydrochloride is said to be very efficacious in scorpion bite.

Internally—sodium bicarbonate—gr 10 and spirit ammon aromaticum 30 to 60. Aqua chloroform ad—1 Oz. Mft. Sig One dose three to four times a day

Whooping cough,

Prophylaxis—With injection of whooping cough vaccine—0.5cc, and three weeks after 1 c.c. containing 10'000 000 of H. Pertussis.

Curative.

1 Isolation of the sick

2 Room should be warm and airy

3 Diet—Should be carefully selected to maintain nutrition of the sick children. It is better to give a feeding of semi-solid food after vomiting. Protein hydrolysate milk preparations, emulsion of an egg etc be included in the dietary

4 To dimish the paroxysms, the following have their advocates, Phenobarbitone—1/8 to ½ gr orally By intramuscular injection—1 to 3 grs. Ephedrine—1/8 to ½ gr Ether—40 to 120 minims in half an ounce of olive oil per rectum with a rubber catheter Ether—1 c.c intramuscularly Injection is painful. Paraldehyde—60 to 120 minims in an ounce of olive oil per rectum. Sodium Bromide—5to 10 gr.

4 In presence of bronchitis—Sodium bicarbonte—gr 5. Syp vasaka—gr 30 Aqua ad 1/2 ounce

Mist. Sig. Every 6 hours.

5 In presence of asphyxial attack—Oxygen inhalation.

6. Hyper immune human or rabbit serum intramuscularly are advocated.

7 The following antibiotics are advocated when conservative treatment fails. —chloramphenicol—250 mg or half the dose in children three to four times a day for seven days. Always examine the blood if there is cellular alterations, when to stop the drug. Aureomycin is also advocated

8. In the convalesence—iron, codliver oil with malt, change of air well balanced diet with high vitamin and protein content. Keep the child away from exposure to other infection.

Acute Poisoning—of Common Occurrence.

Aconite—(a) Wash out the stomach with a solution of tannic acid—6 Gm (90 grs) in a Gallon of water Give 1.3 Gm (20 grs) of tannic acid in six ounces of tepid warm water followed by animal charcoal powder suspended in water

(b) Maintain the recumbent position.

(c) Administer stimulants—atropine sulphate 0.32mg (1/100 gr) strychnine hydrochlor—8 mg (1/8 gr) hypodermically Amyl nitrite inhalation.

(d) Keep the body warm with hot water bottles or bags, friction of the body surface and hot blankets.

(e) Oxygen inhalation and artificial respiration when needed.

(f) Hypertonic saline infusion in presence of loss of electrolytes.

Arsenic—(a) Help elimination—wash out the stomach with warm water or milk. Use stomatch Tube with great caution

(b) Prevention of the toxic action—Three ounces of the ferric chloride solution (Liq Ferri Perchloride) to be mixed with an ounce of sodium carbonate and diluted with water till effervesence has ceased. Dose of this preparation ½ ounce to be taken every fifteen minutes.

(c) Specifics—(i) Sodium thiosulphate—0.5 Grm intravenously

(ii) British Anti Lewsite (B. A. L.)—10 per cent solution—2 to 5 ml every four hours in the first 24 hours. To be repeated according to the nature of the effect and discretion of the physician.

(d) Castor oil or magnesium sulphate solution to be administered, to prevent absorption of arsenic, when vomiting has

subsided.

(e) Demulcents to be taken—Ghee, albumen water barley water etc.

(f) Morphine—10 to 20 mg (1/6 to 1/3 gr) hypodermically to diminish pain.

(g) To replenish loss of electrolytes—by infusion of 5% glucose in normal saline, Ringer's solution etc.

(h) Treat collapse by injection of caffeine sodium benzoate—0. 15 Grm (2 grs) coramine etc.

(i) Massage of limbs to relieve cramps.

Alcohol Poisoning—Acute.

(a) Use stomach tube and empty the stomach.

(b) Next leave hot coffee in the stomach

(c) Stimulants—strychnine or camphor hypodermically

(d) Keep up the warmth of the body by hot blankets.

(e) Bromides orally—when the stomach is empty to relieve congestion of the brain.

(f) Intravenously—(i) 5 to 10 per cent glucose in normal saline. one to two pints.

To this may be added—(ii) Vitamins—B_1—100 to 200 mg.
Nicotinamide—100 to 00 mg.
Vitamin C—500 to 1000 mg.

Infusion should be given in slow drip method.

(g) Normal saline—one to two pints as rectal enema.

(h) Oxygen inhalation and artificial respiration when deemed necessary

Barbiturates—(a) Wash the stomach with a stomach tube and warm water

(b) Leave ½ an ounce of sodium sulphate in water in the stomach after washing.

(c) Keep the air passage clean, free from mucus and secretion, if necessary by aspiration.

(d) Oxygen inhalation when necessary

(e) Preserve the body heat, by hot water bags and warm blankets Change of posture, every now and then to prevent hypostatic congestion of the lungs

(f) In presence of profound depression—nikethamide—intra venously 10 c. c. of as a 25 per cent solution, every 15 to 30 minutes till reflexes return.

Picrotoxin—By continuous infusion—1 to 2 mg per minute till return of reflexes. Next 6 to 12 mg intramuscularly every 15 to 30 minutes depending upon the response or recovery of the patient.

Strychnine hydrochloride—8 mg (1/8 gr) hypoderminically every six hours

(g) Intravenously 5% glucose in normal saline or Ringer s or Ringer Lactate solution—one to two pints. Avoid congestion of lungs.

(h) To prevent pulmonary infection—antibiotics—penicillin parenterally

(i) Feeding—If the patient is in coma for a long time milk and glucose through Ryle's tube

(j) Catheterization of baladder every six hours with proper precaution.

(k) Careful nursing is imperative

Carbolic Acid.—(a) Wash the stomach passing a Ryle's tube with a solution of sodium sulphate or liquid paraffin till the wash looses odour

(b) Atropine sulphate—gr 1/100 hypodermically

(c) To combat acidosis and diminished alkalinity of blood, intravenous injecction of sodium bicarbonate (Commercially available) in normal saline One to two pints as it becomes necessary

(d) Oxygen inhalation and artificial respiration when necessary
(e) *Administer demulcents—white of an egg and milk etc.*

Copper Sulphate—(a) Wash out the stomach with a 5% solution of potassium ferroocyanide which forms cupric ferrocyanide
(b) After stomach wash leave an ounce of castor oil to prevent absorpton of copper
(c) Demulcent drink—such as white of egg, milk, barly water etc.
(d) Morphine—8 to 10 mg (1/8 to 1/6 gr) hypodermically *to relieve pain.*
(e) Stimulants when necessary
(f) Alkaline diuretic mixture—if the quantity of urine is less
(g) 5% glucose in normal saline intravenously in presence of dehydration and loss ot electrolytes.

Carbonmonoxide—(a) Remove the patient at once into fresh air
(b) Artificial respiration to begin forthwith.
(c) Oxygen administration at a high speed.
(d) Injection of adrenalin tartrate—*0.25 to 0 5 hypodermically*
(e) Intravenously cardiozol—5 c.c. of a 25 per cent solution every half to one hour in presence of coma.
(f) Apply hot water bags and warm blankets.
(g) In severe collapse—blood transfusion or polyvinyl-pyrrolidone or Ringer's lactate solution.
(h) After breathing is established and if he is conscious, give him tea or coffee.
(i) Watch him carefully
Datura—(a) Pass in a stomach tube or Ryle's Tube. Wash with warm water *first and preserve* the stomach contents.

Next wash out the stomach with just a pink solution of potassium permanganate (5 to 10 grs to a pint) Or the stomach may be washed with tannic acid solution (5 grs to an ounce) When the return solution is clear hot coffee is to be left in the stomach.

(b) Prostigmine—0.5 mg subcutaneouly

(c) Delirium—Chloral hydrate and bromide mixture orally or by rectum. Paraldehyde—8 to 15 ml in four ounces of saline per rectum Sodium luminal—0 3 to 0 6 Gm intramuscularly

(d) Cold application to the head

(e) Stimulants—Caffeine sodium benzoate—0.5 Gm intramuscularly Oxygen inhalation.

(f) If the respiration rate is very slow the patient should be put in Iron Lungs.

(g) Maintain nutrition, if necessary intravenous alimentation.

(h) Change of posture and careful nursing are essential.

Food Poisoning.—(a) Rest in bed. (b) A Ryle s tube is to be passed into the stomach and wash with warm water

(c) No food per mouth except boiled cool water green cocoanut's water or glucose water

(d) A saline purgative in absence of bowel movement.

(e) In presence of vomiting and diarrhoea—

Re, Osmokaolin—2 to 4 Grm.
Charcoal powder—2 to 4 „
(Medicinal)
Camphor monobrom—60 mg (1 gr)

Pulv

Sig. One powder every four to six hours.

In presence of loss of electrolytes—the following drink—is useful.

Re, Sodium bicarbonate—1 Gm.
Sodium chloride —1 „
Potassium chloride —1
5% glucose solution ad 1 liter
Sig. To sip ad lib.

(f) Succinyl sulphthiazol or chlorampeenicol—according to the nature of salmonella infection

(g) To replace loss of electrolytes when marked—the following infusions are recommended—5% glucose in normal saline, Ringer's solution, Ringer lactate solution, Rogers hypertonic saline.

(h) Stimulants when necessary—adrenaline tartrate or malate —*0.25 to 0.5 ml subcutaneously*

(i) Bowel wash with warm normal saline, when necessary

Lead—(a) Remove the patient from atmosphere he has lead poisoning.

(b) Wash the stomach, passing a Ryle's tube, with a solution of 1 per cent sodium sulphate solution or warm water

(c) If the stomach tube is not at hand, use emetics.

(d) Magnesium sulphate—8 to 16 Gm in an ounce of water to be given orally or by the stomach tube to prevent absorption of lead from the intestinal tract

(d) Demulcent drinks—egg white, milk or barly water

(f) Intestinal colic—"lead colic as it is termed.—Calcium gluconate—10%—10 c.c. intravenouly *In case of colic*—morphine—10 mg (1/6 gr) and atropine sulphate—0.3 mg (1/200 gr) hypodermically

(g) De-loading—Calcium versenate—(If the patient is seen within three hours of taking lead) 3 Gms in a pint of 5% glucose solution, intravenously by drip method. Duration of injection—2 to 3 hours Twice daily

(h) Diet—Should contain milk and milk preparations.

Opium—(a) Put in a Ryle's tube. Wash the stomach with warm water. Keep the gastric content in a bottle properly sealed and labelled.

(b) Wash the stomach with a just a pink solution (0.25 to 0.3% solution) of potassium permanganate. If the strength of the permanganate is higher it will burn the gastric mucosa.

(c) After the stomach wash is over put in the stomach, sodium sulphate solution—10 to 15 Gm. to an ounce to prevent absorption of opium from the intestines.

(d) This is followed by administering hot coffee through the Ryle's tube, if the patient is not sufficiently conscious to take it orally.

(e) Oxygen inhalation and artificial respiration are essential. If necessary the patient may be put in an Iron Lung.

(f) Ephedrine hydrochloride—30 to 60 mg (½ to 1 gr) in 1 c. c. and amphetamine phosphate—5 to 10 mg in 1 ml—to be injected subcutaneously. Watch the result on respiration and circulation in 20 minutes.

Or Nalorphine hydrobromide—5 to 10 mg in 1 ml to be injected intravenously in 5% glucose solution. It can be repeated if necessary. It improves respiration in three minutes. The total dose of 40 mg should not be exceeded.

In presence of cyanosis, if the blood pressure is not so low venesection and withdrawl of 12 to 15 ounces of blood is often very useful.

Each case must be judged on its own merits. Adrenaline tartrate (1 : 1000) 0.25 to 0.5 ml hypodermically in presence of fall of blood pressure.

(g) Change of posture very frequently to avoid hypostatic pneumonia.

(h) Shock—Transfusion of blood plasma or infusion of poly vinyl pyrrolidone.

(i) Careful nursing is absolutely necessary.

(j) Relieve bladder every six hours if the patient is unconscious. Normal saline enema.

(k) Nutrition is to be maintained by infusion of glucose saline, electrolytes protein hydrolysate with proper precautions

Mercury—(a) Stomach wash with four liters of 5% sodium formaldehyde sulphoxylate.

(b) Intramuscularly—300 mg of a 10 per cent British Anti Lewisite (B A. L.) with benzyl benzoate in arachis oil This should be followed by 150 mg every six hours—this to be repeated for two to three days.

(c) Demulcent drinks—egg albumen, milk etc.

(d) Ringer's solution and Ringer-lactate solution intravenous y with care to prevent acidosis and during shock.

Oleander(White or yellow)—(a) Wash out the stomach with warm water

(b) Stimulants—adrenaline, camphor ether etc are to be used.

(c) Symptomatic treatment.

Phosphorus (poisoning due to rat or vermin paste)

(a) Wash the stomach with warm water by passing a Ryle s tube till the return flow is odourless. Or Wash the stomach with a very dilute solution of potassium permanganate (just pink solution). It should be followed by a heavy dose of medicinal finely pulverised charcoal powder suspended in water

Or

(b) Copper sulpahte—2 to 3 grs in an ounce of water given every five minutes to induce emesis.

(c) Contraindicated—oils and fats which dissolve phosphorus.

(d) To prevent phosphorus absorption from the intestine and for purgation, one dose of magnesium sulphate—(4 to 16 g) in an ounce of water to be given. Oxidised oil of Turpentine

—30 to 40 minims in an ounce of water to be repeated if necessary

(e) Shock—polyvinylpyrrolidone, glucose-saline infusion.

(f) Plenty of glucose, alkaline drinks, protein hydrolysate, fruit juices, vitamins, honey etc to protect the liver

(g) Atropine sulphate—0. 12 mg, hypodermically in presence of organic phosphorus compound poisoning.

Scorpion bite—(a) Put a ligature above the site of sting and incise it.

(b) Wash the wound with a weak solution of ammonia or solution of potassium permanganate.

(c) Inject procaine solution 2 per cent by infiltration round the site of bite or inject emetine hydrochloride—½ to 1 gr (30 to 60 mg) hypodermically near the site of sting.

(d) Inpresence of shock—polyvinylpyrrolidone, saline glucose infusion.

(e) Specific antiserum

(f) Antihistaminic drugs,

Snake Bite—(a) Put a ligature above the site of bite to prevent circulation and another ligature higher up where there is a single one underneath. Loose it for a few seconds every 5 to 10 minutes to avoid gangrene.

(b) Incise the bite and apply potassium permanganate crystals.

(c) Antivenene (Haffkine)—20 to 60 ml intravenously or intramuscularly with proper precaution of serum administration.

(d) Heparin—intravenously if the snake is Dhobia.

(e) Treat shock with polyvinylpyrrolidone and saline infusions etc.

(f) Oxygen inhalation

(g) Artificial respiration when necessary

(h) Stimulants—Injectio adrenaline calcium gluconate, caffeine sodium benzoate etc.

(l) Preserve nutrition

Sulphuric Acid—(a) Donot use the stomach tube.

(b) Plenty of alkalies and alkaline drinks are to be given in the form of sodium bicarbonate potassium bicarbonate, magnesium carbonate, calcium carbonate etc.

(c) Excoriations should be washed with lime water

(d) Plenty of mucilagenous drinks.

(e) Treat dehydration and loss of electrolytes with infusions of glucose and glucose salines etc.

Boric Acid—(a) Empty the stomach with a Ryle s tube.

(b) Give purgative dose of magnesium sulphate.

(c) 5 to 10 per cent glucose in normal saline infusion in presence of collapse.

(d) When conscious—plenty of glucose, honey fruit juice etc.

Methylated Spirit Poisoning

Methylated spirit as it is sold in the market, is not meant for human consumption. It is meant for industrial purpose It is labelled with pictures of the skull and a long bone—idicating that is should on no account be taken internally It is a poison. It contains rectified spirit (90% alcohol) 0.5 per cent pyridin bases. 0.5 per cent caoutchoucine (dry distillation product from scrap rubber), and 0,5 per cent naphthalene. It is often used for suicidal purpose.

Treatment—Pass a Ryle's tube in the stomach and take out the gastric contents. Wash with boiled water If heavy dose is taken inject caffeine sodi benzoate intramuscularly and treat as acute alcoholism. The author treated a young lady who took a few ounces of methylated spirit after a quarrel with the husband. She was asked to drink a glass of water followed by an injection of apomorphine hydrochloride—gr 1/10 intramuscularly She vomited out all the contents and was alright.

Kerosene oil Poisoning.

Poisoning by kerosene oil may take place either by inhalation of fumes or by ingestion, Poisoning may be accidental as the crawling babies of the poorer class often drinks kerosene oil from tin lamps. Suicidal poisoning is less in occurrence.

Symptoms of ingestion of kerosene—are —

(i) gastro-intnstinal—burning sensations in the throat, nausea, vomiting, colic, diarrhoea, (ii) respiratory and circulatory—cyanosis, dyspnoea, (iii) nervous—heaviness in the head, giddiness, drowsiness leading to stupor coma and death. In children, there may be convulsions.

Treatment—Pass a Ryle's tube and take out the contents of the stomach and next wash the stomach with warm water Vomitus, stool and urine emit smell of kerosene. Administer sodiumbicarbonate in solution Dehydration should be treated with one-sixth molar solution of sodium lactate or Lactate-Ringer's solution. In presence of drowsiness inject adrenalin tartrate solution nikethamide etc, Pulmonary infection and hyperpyrexia often follow

To prevent this. penicillin is used parenterally in dose of 400 000 to 800 000 units daily in children Relapse may follow apparent recovery in children. Take care of liver kidney and heart. (Modi)

Treatment of poisoning in children—General principles. (Lendle).

Cases of poisoning occur in children very frequently Tablets or pills kept within the reach of babies and children are the frequent causes. Babies and children take them as sweets, Poisoning occurs. Sometimes the poisoning is detected, if the patient is in convulsions or in coma, it becomes difficult to detect.

Common occurrences are—opium pills of the grand-mother green or coloured ferrous sulphate tablets, boric acid,

colchicine tablets, vitamin D with calcium etc, These can be multiplied.

Principles of treatment—

1 To induce vomiting—(a) By tickling the fance

(b) By allowing to drink salt water

or (c) by passing a Ryle's tube and washing the stomach with boiled cold water Indiscriminate use of milk as a diluent is not recommended as some poisons are dissolved in milk and help absorption of the ingested poison

2. Use of antidotes when the poisoning is known—such as nalorphine for morphine poisoning. B A L. (British anti Lewsite) in acute poisonings due to mercury arsenic etc. In carbon-monoxide poisoning, oxgen inhalation, venesection and replaced by whole blood transfusion and if necessary transfusion of concentrated human red blood corpuscles.

3 Leave finely powdered animal charcoal powder in suspension in the stomach after gastric lavage and if necessary leave 2 to 4 Gm of sodium sulphate with the charcoal.

4 Analeptics are indicated in presence of coma as in barbiturate poisoning. But one must remember that babies and children are hypersensitive to cardiozole, coramine, camphor and strychnine.

5 Morphine in infants—It is the saying of old physicians—not to use morphine in treatment of babies and children in first few years of medical practice. 5 mg of morphine is the toxic and fatal dose in babies. The only preparation of opium that is used in children is—Tinc opii camphorata (0.05% strength of morphine) in selected cases,

6. In presence of convulsions—chloral hydrate and bromide per rectum well diluted.

7 Dehydration and loss of electrolytes are to be combated

In a general way ½ to 1/5 th normal saline is well absorbed orally or rectally

Aminophyllin Poisoning in Children.

Aminophyllin is used markedly in treatment of asthma in children, particularly in the form of a suppository (U S P Each suppository contains 500 mg of aminophyllin) It was given every four hours and produced toxic symptoms. Baca 1 H. L. et al reported ten cases of aminophyllin poisoning, in children, Their ages were—one case was eight months old, another ten years old and the rest 3-3½—4 years old The common symptoms—*during admission to the hospital were*—nausea, vomiting hematemesis, convulsion, dehydration scanty urine and often drowsiness. Xanthines—caffeine, theobromine and theophyllin—in overdosage act on the—(1) the nervous system resulting in—stimulation, with unusual restlessness and irritability This is an early sign and may progress to tremors, epileptiform convulsion drowsiness and coma. (2) Prolonged increase in gastric secretion—is manifested by nausea, persisting vomiting or even hematemesis. (3) Increased output of urine, leading to reversible albuminuria and dehydration. (4) Cardiovascular collapse or even death.

Treatment—(1) Stop the drug. (2) Replacement of electrolytes. (3) Treatment of dehydration. (4) Blood transfusion (5) Antibiotics in presence of infection—respiratory (6) Hypnotics and anticonvulsant—paraldehyde per rectum in presence of convulsions. (7) Oxygen inhalation in presence of cyanosis,

Suggested prophylaxis in the use of aminophyllin in bronchial asthma in children—*When orally ingested—aminophyllin* tablets are absorbed—blood concentration aminophyllin—reaches its peak—in about an hour after administration. After rectal administration—blood levels are maximum

between three and five hours although absorption is variable and unpredictable,

(a) Oral suspension tablet—5 mg (1/12 gr)/Kg body weight, the dose may be repeated every eight hours, but not oftener than every six hours.

(b) Rectal suppositories—or retention enema 7 mg/Kg body weight The dose may be repeated every eight hours but not more often then every six hours and is to be restricted to cases where oral administration is not possible Aminophyllin suppository—(U.S.P)—500 mg strength,

Emergency Kit (Silverman and Trodeas slightly modified) should contain the following drugs.

Name of the drug—	Mode of administration—	Average Dose	Indications and Precautions
1 Atropine sulphate	Subcutaneously in deire emergency intravenously	gr/100	Carotid sinus hypersensitivity Heart block. Adams—Stokes Syndrome Increase of dose and intravenous-use require great precaution.
2. Aminophyllin	Intravenously with or without glucose solution	0.25 to 0.5 Gm	Asthmatic attack, Status asthmaticus. acute left ventricular failure. Precaution—Give very slowly

.	Adrenaline tartrate or malate	Subcutaneously Intramuscularly in severe cases, rarely be given in the ventricle	0.15 to 0.5 ml	Bronchial asthma. Complete heart block. Cardiac arrest. Used intraven ously partricularly in cardiac arrest with precaution
4	Digoxin tablet	Orally In severe cases of congestive cardiac failure intravenously	1.5 to 5.0 mg for total digitalization. Maintenance dose—0.25 to 0.5 mg. Intravenously—0.5 to 1.0 mg The alcoholic solution is diluted with 10 ml of normal saline and injected slowly	congestive type of cardiac failure with or without auricular fibrillation left ventricular failure Caution—in ventricular arrhythmias.
	Ouabin	Intravenously	0.12 to 0.25 mg. Often the initial dose is given 0 5 mg followed by oral	In most acute case of congestive cardiac failure Precaution—it should not be given at

		digoxin tablet		all if the history shows the patient had *digitalis in pre vious two weeks.*
6.	Morphine sulphate or hydro-chloride	Subcutaneously In very acute or urgent case intravenously	8 to 20 *mg*	In presence of *severe pain.* In severe pain of myocardial infarction—morphine—10 mg is injected slowly and intravenously
7	Pehtidine hydrochloride	Subcutaneously Intramuscularly In urgent case	50 to 100 mg	In presence of severe pain where morphine is not to be given
8	Nitroglycerin	Sublingual	0 5 mg	Angina pectoris Before the onset and also during the attack. Not to be used in myocardial infarction.
9	Isoprenaline sulphate tablet.	Sublingual	10 to 30 mg	In bronchial asthma.
10	Glucose 50% solution	Intravenously	*50 ml*	*Hypertensive* crisis, hypoglycemia. To be infused very slowly Avoid leaking out.

11 Phenobarbitone—sodium tablet.	Orally	30 to 60 mg	To ensure sleep at bed time.
12. Nor adrenalin	Intravenously	2 to 8 mcg	To maintain blood pressure in surgical and non-surgical shock, in acute hypotension.
13 Nalorphine hydrochloride	Subcutaneously Intramuscularly Intravenously	5 to 10 mg	Antidote to undesirable reactions of morphine and derivaties. A single dose should not exceed 40 mg.
14 Mersalyl Meralluridi (Mercurial diuretics)	Intramuscular y	0.5 to 1 c.c	Used in cardiac edema and nephrotic edema Watch for sensitivity Contra indicated in severe renal damage and in presence of severe salt depletion.
Mercaptomerin sodium (Thiomerin sodium)	Subcutaneously	0·1 to 0·3 Gm	Same as before

15	Pentobarbiton Sodium (Nembutal)	Intravenously	0.25 to 0.5 Gm in 10cc. of water	Used in convulsion, anxiety hysteria insomnia. Inject slowly Avoid over sedation.
	„ „	orally	0 1 to 0.2 Gm	As above.
15	Reserpine (Rauwlfia)	„	0.25 to 1 mg	Used in labile hypertension, agitated, tense and hyperactive psychotic and psychoneurotics.
		Intramusculaly	1 0 to 2.5 mg	In agitated psychotic condition.
16.	Chlorpromazine hydrochlorid.e (Largactil)	orally Intramuscularly	25 to 50 mg	Used in severe hypertensive crisis mental excitement severe vomiting. If continued for a long time, watch for signs of toxicity
17	Potassium chloride tablets.	orally	0.3 to 0.6 Gm every 3 to 4 hours.	Used in digitalis toxicity hypopotassimia due to excessive use of mercurial diuretics, chorothiazide, infantile diarrhoea. Contraindicated in severe renal damage.

	Potassium chloride Injectable.	Intravenosly	1 49 Gm in 10 c.c ampule	Used in acute cases. Indications and contra indications are as before.
18	Heparin	Deep subcutaneously The effects start one hour after the injection and lasts for 14 to 20 hours (Foley)	20 000 units in 1 c.c	—Indicated in myocardial infarction and in presence of thromboembolism and in "poor risk patients of Russek.
19	Ethyl Biscoumacetate (Tromexan)	Oral	—1200 to 1500 mg and Dicoumarol 200 to 300 mg as the initial dose. The desirable therapeutic level is 22 to 35 seconds with a control level of 15 seconds.	—Used in myocardial infarction pulmonary embolism peripheral embolism To be regulated by prothrombin time by Quick s one stage method. (Wright) Avoid in severe liver disease.
	Dicoumarol	—Oral	Subsequent average dose—75 mg daily It may	Precautions as before.

			vary from 25 to 150 mg.	
20	Phytonadione (Vitamin K1 oxide)	Intravenously	20 mg very slowly if the *prothrombin* time is above 80 seconds *If* the prothrombin time is 60 seconds.	—Indicated in hypoprothrombinemia *from* dicoumaral, tromexen, cumpyran or phenylindanedione. Injection should be very slow
		Oral	10 mg is sufficient. (Wright).	
21	Phenylindanedion	Oral	—50 mg each tablet 3 to 4 times a day on the first day Subsequent doses one tablet twice daily	—Indications and precutions as in tromexan.
22.	Procainamide injectable. (Pronestyl 10 c.c vial. 100 mg per c c).	Intramuscularly	100 mg every hour to effect or toxicity	—Used in ventricular arrhythmias. Caution—electrocardiograph should be taken. Contra-indicated in heart block.
23	Methacholin chloride (Ampoule contains 25 mg of the dry powder).	Subcutaneously	10 to 25 mg	—Used in paroxysmal auricular tachycardia. Have atropine ready by the side. Avoid in allergic patients.

Solutions For Intravenous Administration.

The following intravenous infusions are prepared of pyrogen-free distilled water They should not be made with tap water due to the presence of pyrogen.

Name	Composition	Indication	Caution
1 Normal Saline	0 9 per cent sodium chloride in water	To replace sodium chloride	Excessive infusion of normal saline may produce edema of lungs brain etc and symptoms of water intoxication
2. 5% glucose in normal saline	5 Grams of glucose in 100 c.c. of normal saline.	Acidosis with loss of electrolyte	As before
3 5% glucose solution	5 grms of glucose in 100 c.c of water	Dehydration water depletion, Heat Stroke	As before
4 Sodium chloride 10% in water	10 gms of sodium chloride in 100 c.c. of water	Bromide poisoning, anuria in diabetic coma (Joslin)	Dose to be regulated by the blood chemistry
5 Sodium bicarbonate 1 to 1.3 per cent in water	1 to 1 3 gm of chemically pure sodium bicarbonate in	Diminished alkalinity of blood as in cholera	Avoid alkalosis.

14	Protein hydrolyrate	5% solution of aminoacids in saline and 5% glucose.	Hypoproteinemia—acute or chronic.	A skin sensitivity test must be done before injection.

Transfusion of human whole blood and its derivatives.

Correct matching of blood to A B, O and Rho agglutinins is imperative and essential.

Nirmal 40

	Name of the substance	Indication	Caution
1	Whole human blood (*Fresh and preserved with the anticoagulant—acid glucose—citrate*)	(a) Shock and collapse *after hemorrhage.* (b) In severe hemorrhage complicating gastric, duodenal and typhoid ulcers. (c) Hemolytic disease of the new born—exchange transfusions. (d) In hemolytic disease and also in hemorrage following anticoagulants—fresher the blood better is the result.	(a) Be sure of *matching of* blood. (b) Guard against rigor chill etc small immidiate reactions, with antihistamine, and morphine—gr 1/8 if necessary (c) To be followed by alkaline diuretic mixture, three times a day for three days.
2	Concentrated Human Red Blood	(a) In profound anemia with or	The volume *should not ex*

	Corpuscles.	without cardic decompensation (b) In acute hemorrhage from peptic ulcer in the elderly patient with associated cardiorespiratory disease. (Ed)	ceed 40 to 50 ml. To check the temptation of giving more volume is the key note to success. This will avoid cardiac failure.
3	Dried Human Plasma	In shock and burns	Repeated plasma transfusions should be given with care. Keep watch for homologous serum jaundice.
4	Dried Human Serum	As before	As before
5	Liquid Human Serum	As before	As before
6.	Salt free human albumin	Nephrosis, Cirrhosis of the liver and hypoproteinemia	Guard against the recurrenc of the condition

Insulins.

Insulin is prepared by the beta cells of the pancreas in the body In the healthy men insulin is prepared according to the nature of the diet. Insulin is used every day in practice

Insulin is used primarily in treatment of diabetes mellitus when diet control is not sufficient to tackle, in juvinile diabetes and in diabetes with complications in the shock treatment of schizophrenia in the afebrile state of tuberculous patient to improve appetite and nutrition in testing the gastric function as regards acidity—before and after vagotomy in treatment of peptic ulcer

Insulin in the the treatmet of diabetes mellitus.

Diabetes is diagnosed by clinical examination of a patient and by examination of fasting blood sugar and urine sugar level with Benedict's qualitative test two hours after the mid-day meal. Three types of insulin in common use—They are — "Quick acting insulin" "Slow acting insulin." "Intermidiate acting insulin."

1 "Quick acting" insulins—1 Regular Insulin 2. Crystalline insulin. They are used in treatment of juvenile diabetes, diabetes with complications—such as ketosis, infection and surgical interference. In short, these are used in all cases where large doses of quick acting insulins are necessary The maxium effect of these insulins after subcutaneous injection comes in half to an hour The diet should be given in half an hour's time The action of the insulin lasts for six to eight hours. So the action of the drug goes in the period when the patient is awake and when he can get a feeding. The chance of hypoglycemia is less. Often, to control hyperglycemia in a difficult case, regular or crystalline insulin may be given every eight hours. In cases free from complications, former method of giving two to three injections of insulin (regular or crystalline), are replaced by a single injection of insulin—the action of which is "slow" or intermidiate" The use of insulin in diabetic coma has already been described under Diabetes.

2. "Slow acting" insulins—They act slowly Examples are—Protamine Zinc Insulin (P.Z.I) or 'Cloudy Insulin Insulin Zinc Suspension (Amorphous)—(Syn—Amorphous I Z S Semi Lente Insulin) Insulin Zinc Suspension (Crystalline)—(Syn—Ultra Lente Insulin) There is another Mixture of 'Semi Lente Insulin and Ultra Lente Insulin known as Lente Insulin which is much used now-a-days. Its effect lasts for

twenty-four hours. Its maximum effect (of P.Z.I.) comes about ten to twelve hours after and the effect lasts for twenty-six to forty-eight hours. It is the drug to control diabetic condition by slow action. Hypoglycemia may come in the sleeping hours when the patient is without food. When the condition is serious generally slow acting insulins are injected with regular insulin at the same time or in the same syringe. The regular insulin acts quickly and brings down hyperglycemia in the day time and hyperglycemic state in the night is controlled by the slow acting insulin. So a small amount of food should be given just before retirement. The initial dose of the slow acting' insulin be given 20 units before breakfast. The increase of insulin units is done every third day by 3 to 5 units. In such conditions urinary sugar test with Benedict's solution (Qualitative) should be done every six hours before and after meals to assess the condition. Lente insulin can be substituted for NPH insulin unit for unit. These slow acting insulins can fit a patient. In the present time Lente insulin is replacing regular and NPH insulins for slow action and control of hyperglycemia for a long time. Chief advantages of lente insulin are—(a) It contains no added protein. (b) It provokes fewer allergic reactions. (c) It can be used in the treatment of diabetic patient for the first time and in cases difficult to regulate by other insulins and in patients, allergic to other insulins.

3 "Intermediate acting" Insulins—Examples are—Globin Insulin (G.I.) Neutral Protamine Hagedorn Insulin. (Syn. N P H. Insulin, Isophane Insulin)

Globin Idsulin—Maximum effect comes in two hours and the effect lasts for twelve to eighteen hours. It is useful in middle aged and elderly diabetics who do not require more than 40 units of insulin a day.

Neutral Protamine Hagedorn Insulin (NPH Insulin Isophane

insulin)—Injection is given before breakfast. Maximum effect comes in seven to eight hours and the action lasts from twenty-six to thirty hours. So the hypoglycemic effect comes in the evening. A meal should be arranged in the mid-afternoon and a light meal while retiring, to avoid reactions in the night.

The great advantage of NPH insulin is its single dose administration in most cases before breakfast and it is very suitable for cases where slow action of insulin is wanted Generally in an untreated patient the initial dose is 10 units before breakfast. Urine should be examined every day before injection with Benedict s solution. Generally increase of insulin units, if necessary will be 3 to 5 units every day until satisfactory control is reached. The color of the precipitate of the urine after Benedict s test counts and determines the dose of insulin. They are tabulated as the following

Units of insulin	0	4	8	12	16
Color of the Precipitate	*Blue*	*Green*	*Yellow*	*Orange*	*Red*

The daily dose of insulin to which a patient is habituated, becomes double in presence of ketosis, infections and surgical complications.

N P H insulin is not to be used in young diabetics, where bigger dose of quick acting insulin is necessary to bring the condition under control. Often a dose of regular insulin may be injected with NPH insulin before breakfast. In such a condition, regular insulin should be drawn in the syringe first.

The duration of action of all the insulins varies with the size of the dose severity of diabetes, the diet and exercise (Joslin). The dose is always selected according to the needs of the patient and decisions of the attending physician.

Until recently NPH and regular insulins were used But now a-days, Lente insulin is replacing them.

A diabetic needs diet control with insulin treatment. General diet recommended—150 to 200 g of carbohydrate 80 to 90 g

of fat, and 100 g of protein This is to be arranged in divided amounts according to the dose insulin, work and rest of the diabetic patient.

We should remember that we are to treat a patient as a whole and not a disease entity More attention should be focussed for the well-being and efficiency of the patient.

Technique of Insulin Injection.

Insulin vials contain 40 units, 80 units and 100 units per ml A vail contains 10 ml. It is always better to use one maker s product and stick to this in absence of allergy Keep two needles one big bright and a slightly blunt to puncture the rubber cork and the other short, sharp and bright needle no 20 for the injection. The syringe may be one or two c. c. capacity Each c. c. divided into 20 or 40 equal divisions so that insulin units can be measured accurately in good light Ideal methods—Boil the syringe and the two needles in water for five minutes. Cool them first fit in the blunt needle Sterilise the rubber cork with ether Allow it to dry Draw in a little air equal to the amount of insulin to be drawn in. Puncture the rubber cork and take the requisite amount of insulin.

Change the needle and fix in the sharp short and bright needle.

Sterlize the site of injection with ether and allow it to dry In good light inject the insulin.

Always inject the correct therapeutic dose in a new site for every injection and always fix the dose after proper examination of the urine Be sure that you take the correct dose Hypoglyceema is one of the causes of death in a diabetic So beware

Treatment of Pneumonias.

Name of the causative organism	Specific Treatment.
1 Pneumococcal Pneumonia	1 Penicillin is the drug of choice Dose—300,000 units of aqueous penicillin, every 3 to 4 hours intramuscularly or 600 000 units of procaine penicillin twice daily To be continued for 3 days after the temperature is normal. Sulphonamides are also effective. Dose—6 to 8 g daily in divided doses. Other antibiotic—such as tetracycline, chloramphenical and erythromycin are said to be next to penicillin.
2. Streptococcal Pneumonia ...	2 Treatment like pneumococcal pneumonia.
3 Staphylococcal pneumonia	3 If the staphylococcal be susceptible to penicillin, large dose—2 to 4 million units be given daily Streptomycin may be added to penicillin. If the organism is susceptible to erythromycin or novobiocin by sensitivity test—one or the other may be used. If

	the organism is a resistant strain—bacitracin 25 000 units every 6 hours, intramuscularly But its nephrotoxic activity should be remembered Treatment should be prolonged for 4 to 6 weeks.
4 Klebsiella Pneumoniae (Friedlander bacilli)	4 Sulphadiazine and streptomycin Tetracyclines—4 g initially Streptomycin—2 to 4 g daily with precaution Treatment should be continued for several weeks for the severity and chronicity of the disease
5 Hemophilus infections. (H Influenzae. H Pertusis)	5 Sulphadiazine or streptomycin should be used Chloramphenicol or tetracycline—2 to 4 g daily in divided doses

6. Coliform Proteus and Pseudomonas Group.—The sensitivity test must be done against antibiotics tetracyclines, Sulphadiazine, and streptomycin. If these orga-nisms are resistant, combination of tetracycline and streptomycin in full dose should be tried. Polymixin is the drug of choice for pseudomonas pneumonia. This drug is both nephrotoxic and neurotoxic. It should be used with all precaution In fact these bacterias poorly respond to antibiotics.

7 Salmonella typhosa—The typhoid bacilli is a rare cause of peneumonia.

Chloramphenicol—2 to 4g daily followed by 1 g daily for a few

days is specific. In other salmonella infections, chloramphenicol or one of the tetracyclines may be used.

8. Brucella infections—These are best treated by a combination of tetracycline, 1g, every six hour along with streptomycin 1g daily for a month.

9 Anthrax—Pulmonary anthrax is a rare complication of anthrax but when present is a serious one. The tetracyclines are the drug of preference and penicillin and sulphonamides are used successfully

10. Glandars Lung lesions occur in about 25% of the glander cases.

Sulphadiazine and streptomycin, and the broad—spectrum *antibiotics are successfully used*

11 Pasteurella Infections—(Pasteurella pestis Pasteurella tularensis)	In plague pneumonia—sulphadiazine, streptomycin, chloramphenicol and tetracycline-all have been found effective. Streptomycin is the best. In tularemic pheumonia—streptomycin—2 to 4g daily is advocated. The broad spectrum antibiotics are also effective.
12. Viral pneumonias—	Psittacosis—The tetracyclines are *preferred* Dose—4g daily in divided doses for first two days, followed by 2g daily in divided doses. Penicillin has been successfully used. In other viral pneumonias such as—influenza, variola, varicella, primary pneumonitis of infants, infectious mononucleosis, primary atypical pneumonia etc—there is

no specific antibiotics or sulphonamides. But for secondary invaders—penicillin and sulpha drugs may be used.

13 Ricketsial Pneumonias—Chloramphenicol or tetracyclines are equally effective. Dose—In severe cases—1g every six hours for three doses, then 0.5g every six hours till the temperature is normal

1 Mycotic infections.

Actinomycosis—Penicillin is the drug of choice. Dose—1 to 2 mega units a day Surgical drainage when necessary One of the tetracylines is as effective. Treatment is continued for at least six weeks. To prevent recurrence the treatment is continued for a long time after the apparent recovery

Histoplasmosis—Suggested antibiots is amphotericin B Daily Dose—1mg/Kg wt. To be given intravenously by drip method over six hours. Reaction—febrile due to rapid injection It is relieved by aspirin.

Blastomycosis—Treatment as in histoplasmosis,

Coccidioidomycosis Amphotericin B is used as before.

Monilliasis—Amphotericin B is used. For intestinal monilliasis—Mycostatin is effective

Cryptococcosis—Amphotericin B may be used.

Aspergillosis, Geotrichosis and Penicilliosis—Being refractroy to all known antibiotics, amphotericin B should b tried.

Sporotrichosis—It responds to potassium iodide therapy 2—hydroxystilbamidine should be tried in refractory cases.

Immunization against Diphtheria, Whooping Cough and Tetanus.

Recent knowledge of immunization against diphtheria whooping cough and tetanus collected and concluded by the British Council of Medical Research is a very important one.

They found that the neurological complication, poliomyelitis varied with the nature of prophylactic used, being greatest with alum precipitated diphtheria and pertusis. (Ed Lancet).

So according to the Circular 8/57 Ministry of Health—Formol Diphtheria Toxoid, Diphtheria Toxoid Antitoxin Floccules will be supplied for immunization for children. So also the Scottish Health Services Councils advised that (i) antigens free of alum should be used (ii) that antigens should be used separately where possible (iii) that antigens free of alum should be used throughout the year

Diphtheria Formol Toxoid—(F T.). For primary immunization in children—F T should be given between eight to nine months of age

Dose—Two doses—1 ml each At least the interval between the doses should not be less than twenty-eight days. And a *single does of 1 ml should be used for the reinforcing dose* With the increase of age, reaction may be great—so the dose should be reduced to 0. 5 ml at ten years and 0.25 ml at fifteen years. (Ed Lancet)

Diphtheria Toxoid Antitoxin Floccules—It is used in immunization of grown up children and adults. Dose—1 ml. Three such doses form a course. The interval between the injections should be three weeks.

It is recommened in 1 ml dose for the reinforcing dose in children over five years of age who have been primarily immunized with Alum Precipitated Toxoid (A P L.) and Purified Toxoid Alum Phosphate (P T A. P) or Combined Diphtheria Pertusis Vaccine and who may in consequence be unduly sensitive to formol toxoid (F T).

Pertusis Vaccine—Plain pertusis vaccine—contains 20,000 million H. pertusis in 1 ml. It is advocated when the child is three months of age Dose—0.5 to 1 ml Three doses form a course. *Interval between the doses four weeks.*

But the medical officer can use alum precipitated toxoids or Combined Tripple Antigen—Alum Precipitated Diptheria Tetanus and Whooping Cough Vaccine, if he is sure that there is no poliomyelitis in the neighbourhood and he takes all the responsibility on himself that there is no chance of development of poliomyelitis in the inoculated

Boyonton et al Injected alum precipited diptheria tetanus toxoid in 1086 college students—male and female and also alum precipited tetanus toxoid Local and constitutional reactions were seen in both groups with alum precipitated dipththeria-tetanus toxoid or alum precipitated tetanus toxoid The authors concluded that although some reaction occurs in a high percentage of young adults who receive alum-precipitated tetanus toxoid or alum precipitated combined diphtheria and tetanus toxoid, the reactions are not severe enough to militate against their routine use in students entering college. (Boyonton et al).

Tetanus Formol Toxoid—It was used extensively in the Allied Army in the last Global War II as prophylatic against tetanus and the result was excellent.

In the civilian practice, people who are exposed to trauma or working in unhealthy surroundings such as in Corporation Drains, wells, coal mines etc, such as children, grooms, athelets, machinery workers, military personnel etc should be immunized with tetanus toxoid. Booster dose is given every year in the army along with Typhoid, Paratyphoid Cholera Vaccine and Small-pox Vaccination etc.

Dose—1 ml. Three doses form a course. First two doses are given in an interval of six weeks. Third dose—three to six months after the second dose. Reinforcing dose—1 ml. even in those who had previously alum precipitaed tetanus toxoid.

In the immunized person, if he gets a trauma, he should be injected a dose of tetanus toxoid. But if the wound is a street

wound contaminated, a dose of tetanus antitoxin should be given in other place when *toxoid is injected.*

Dietetics for the Sick—in common diseases

The following pages will describe, very briefly the principles of the use of food as a therapeutic help in the treatment of the sick.

A *few general rules* are to be observed. They run thus —

(1) The diet of an individual varies with the province or the country he comes from.

(2) The prescriber should try to accomodate the likings and the dislikings of the particular individual as regard his food.

(3) Have a complete history as to what the patient is habituated to take his work, exercise and rest.

(4) Forbid the things which the physician may think contraindicated in the particular stage of the disease.

(5) Before recommending a diet, the prescriber must be satisfied whether the patient likes it and how it agrees with him. Some patients are habituated to drink milk which is boiled for 10 to 15 minutes once only Some patients can digest nicely the evaporated, thick and dried milk.

(6) Prescribe a diet which the patient can take with relish and digest easily though scientifically it may not be the best food.

(7) In the nutrition of the sick, where fat can be given, the the diet should contain unsaturated fatty acids containing essential fatty acids such as linoleic, linolenic and arachidonic. To fully utilise them the food should contain vitamin B_6 and vitamin E.

(8) The change of a diet, to which one *is accustomed, should* a gradual and slow process.

Diet in Fever and Burns.

Diet in Typhoid Fever—A few facts are to be remembered in

connection with fever There is about 7 per cent increase in basal rate (in Calories) for each degree (Farenhiet) rise in body tenperature in fever In presence of bacterial infection catabolism of protein is very high In fever if the patient is on a low food intake, body fat and glycogen are used up as fuel.

In typhoid fever there is rise of tempetature with bacterial infection and consequently there is rise of heat production and rise of basal metabolism If the patient is restless or delirious, further increase of heat production and basal metabolism is possible.

Shaffer and Coleman have shown definitely that by increasing the protein content of the diet, in the assimilable form, it is possible to get nitrogenous equilibium in the patient with a sufficient amount of digestible carbohydrate as a protein sparer

These form the background Our aim will be to supply food which is wholesome and with least residue. The quantity of the food will be such as to meet the needs of the body in fever The older regimen— of whey green cocoanut's water pomagranate juice and glucose water—a starvation diet—which produced high mortality is not followed now-a-days.

Protein is given in the form of the following —milk preparations such as curd ghol, butter milk, milk—citrated or peptonised eggs-soft boiled or poached malted whole milk, chicken soup protein hydrolysate or caseine hydrolysate (oral or parenteral) etc. There are some remarks against the popular belief —A hard boiled egg is easily digested. Milk loaf and butter leave residue. Raw egg albumin is indigestable. Lean meat is quickly absorbed and leave the least amount of residue. (Hosoi, Alvarez and Mann)

The basal metabolic rate being high in typhoid fever a diet of 3500 to 5000 Calories was given by Shaffer and Coleman and the result was good.

Carbohydrates—should be given plentifully in the form of rice gruel, thin barley water etc, differnt types of carbohydrates taken in different states in a digestible and palatable from, honey buiscuit according to the suitability and economic status of the patient It may be given, with fish (small, fresh and fat free) soup dal (pulses) soup of different varieties and vegetable soup Plenty of boiled and cool drinking water green cocoanut s water are soothing to the febrile system. Fruit juices may be given keeping watch over the distension of the the abdomen and bowel movement, Vitamin C tablets may be given when necessary

The tongue should be kept clean by swabbing with glycerin boric acid or lime juice and honey or finely pulverised table salt with mustard oil. Antiseptic gargle, before and after meals, improves the condition of the mouth and taste.

During the height of fever fat is not given. With the diminution of fever cleaner tongue and improvement of appetite, fat is added in the form of cream or butter

During convalescence, the diet should be gradually increased to normal. This high caloric high protein high carbohydrate, highly vitaminised diet with plenty of fluids during the course of typhoid fever ensures safety quick recovery less complication and quicker restoration of normal health.

The same kind of diet is advocated in extensive burns, protracted discharging sinuses etc.

The position of alcohol as a food is a peculiar one. Most of the people in this country do not take alcohol. Only indications—according to old writers—are—high temperature, dry skin and tongue, exhausted and debilitated condition in the alcoholic and sleeplessness. Dose—one to two tea spoonfuls, well diluted with water four times a day

Tuberculosis.

It is a prolonged illness where emaciation is very marked. It

is a worry to the laity and a problem to the medical man. In tuberculosis, with the present day chemotherapy the temperature may be low or afebrile When the temperature rises high the basal metabolism increases as in typhoid fever In tuberculosis, protein produces its specific dynamic action. Rest, fresh air nutritious but simple food, chemotherapy attention to bent of mind and contentment of the patient are the key note of success. The diet should be easily digestible and prepared to the taste of the individual and should contain adequate calories Protein should be given plentifully in a palatable and digestible form It should contain milk and milk products (such as channa etc) eggs, fish, lean meat, protein hydrolysate (orally or parenterally according to the need of the patient) If the patient be young one the protein content should be more Often signs of hypo-proteinemia are associated with tuberculosis, in these patients. So it should be corrected with more care. Vegetable proteins are less utilized than animal protein Carbohydrate should be given in digestible from and plentifully Honey may be included

Fat is essential. Milk forms the great source of protein, and fat in the form of butter Cod liver oil and shark liver oil form the next best as sources of vitamins A and D Cod liver oil is advocated the most. But many men, women object to take cod liver oil. The following substitute of cod liver is suggested long ago

Re,	Very Fresh Butter—300 Gm (nearly 10 ounces)	
	Iodide of Potassium—0 05 centigramme.	(gr 0.008)
	Phosphorus —0.003 ,,	(gr 0 00046)
	Bromide of potassium—0.3	(gr 0 046)
	Chloride of sodium —1 Gm	(gr 15)

Misce.

Sig. This quantity is to be taken in five days on bread Phosphorus may be omitted without doing any harm (Trou

aseau and Pidnox). Cod liver oil consists chiefly of unsaturated glycerides and contains palmitin and stearin as well as traces of chlorine, bromine, phosphorus and sulphur besides vitamins A and D (Remington)

The object is not to make the patient obese but to make him fit and proportionate gain in weight. Vitamins and minerals should amply be given. Fresh vegetables and fruits should be included in the diet. If necessary the following may be given.

Re, Vitamin A—4500 I U
Vitamin D— 500 I. U
Vitamin C— 50 mg.

Sig. To be taken once daily in capsules or tablets or in drops. If the patient is very ill, a liquid diet should be prescribed In presence of digestive disturbance, the diet should be arranged accordingly If there is drenching perpiration, the patient should be given chicken broth or fish soup rich in table salt immediately after prespiration. The body should be mopped dry and a new set of dry underwares be given. When the patient is afebrile and has lost much weight and appetite is poor he may be helped by injection of insulin twice daily before meals—4 to 8 units. It will increase the appetite and help to consume more food Consequently the weight will increase.

Diet in Pneumonia

Due to advent of chemotherapy and antibiotics, mortality from pneumonia has diminished to a great extent. Duration of illness is short. In pneumonia there is rise of basal meta bolism. Non-protein nitrogen in the blood is retained. The chloride content of the blood is low The main brunt of attack is on the lungs and the heart. The object of diet and treatment is to spare the circulatory apparatus. One should

remember that stomach influences the heart in three ways—(i) first, by its anatomical position (ii) second, through the vagus and (iii) third if it is acutely dilated, through its toxemia

The course of illness being short, in the acute stage, small but repeated feeds, in the liquid form should be given every three hours according to the taste of the individual patient. Plenty of boiled water be given to drink. Wholesome food theoretically correct, but not liked by the patient should not be forced Plenty of fruit juice of oranges, sweet limes tomato juice with salt and sugar or honey may be given frequently Vitamin C is antitoxic. Plenty of table salt should be given with food or drink. Milk with different carbohydrate preparations may be given. Avoid distension of the stomach

In the convalescence eggs half boiled or poached, boiled small fishes (of fresh water) over boiled rice, milk or milk puddings are advocated.

In the vegetarinian, channa and its preparations are liked very much.

The quantity of food at a time should be small. A small dose of alcohol is advocated in the elderly sleepless patients and in those who are in the habit in taking it regularly

Antiseptic gargle such as (Thymol—2 per solution in rectified spirit)—5 drops in an ounce of water is very pleasing.

In the convalescent stage, non-protein nitrogen in blood which was retained during illness is excreted and the amount becomes normal in the blood. So also sodium chloride content of the blood becomes normal.

Diet in Whooping Cough.

The child often vomits with paroxysmal cough after feeding It is said that gastric irritation is often the result of bad medi

cation. When the paroxysm is over the child should be fed with semisolid food such as milk and sago or milk and semolina etc. with sugar Half boiled or poached eggs, bread with butter and honey will help. Avoid dry and crumbly food. Orange juice or tomato juice will be liked In grown-up children boiled vegetables small non-fatty fishes and rice and milk form staple articles of diet. The feedings should be small but repeated

In the convalescence, good food fresh air or a change of air and sunshine will help a good deal to recoupe health and prevent pulmonary complications.

Diet In Chronic Bronchitis Asthma, Emphysema and Bronchiectasis.

Food should be taken in small but repeated feeds during the acute exacerbation of chronic conditions. Food should contain high and easily digestible protein in the form of milk preparation such as channa etc. eggs-half-boiled or poached, boiled small fat—free fishes butter green cocoanut kernal. Milk puddings prepared with rice, semolina etc. and sugar make very palatable dishes. Vitamins particularly A D C. should be given plentifully with fruits. Frequent drinks of water are useful They make sputum less viscid and help diuresis. If there is night sweat it should be followed by a cup of fish or chicken or Dal (pulses) soup with a good amount of table salt. Avoid too much food at a time The night meal should be small in quantity taken two to three hours before retiring. Some prefer to take only milk feedings at night. Fruits and boiled vegetables keep the bowels regular besides the supply of minerals and vitamins.

In the asthamatic, foods for which, sensitiveness has been noticed should be avoided so also in urticaria.

Diet in Diseases of Heart and Blood Vessels,

Diet in congestive heart failure

Principles of dieting are :—(i) Small but repeated feeds (ii) total calories should not exceed 1000 to 1200 With improvement and during convalescence, the total calories intake may be increased to 1500 to 2000 (iii) total amount of fluid should not exceed one liter (iv) sodium intake should be restricted (v) in the obese weight should be reduced slowly The diet should be well balanced low in calories, and well vitaminised Milk or butter milk, ghol or lassi form the main diet. Too much raw fruits or a large quantity of fruit juice are to be avoided. Sometimes the stomach is upset. Fruit juice contains a large quantity of potassium Digestive upsets often disturb a damaged heart Disturbances is often due to gastric flatulence or fermentation in the [intestines Dry food, partcularly be masticated slowly Give wholesome food liked by the patient. The selection of food may be left to the patient if intelligent enough. He must avoid foods that do not agree with him. With improvement of clinical condition, the quantity of food may be increased. Too much solid and too much liquid should not be taken together In presence of avitaminosis, vitamins or vitaminised food are to be given.

Diet in hypertension

Simple food, low in sodium, is preferred. On this is advocated—rice and milk diet with or without banana and a little amount of sugar Plenty of vegetables may be taken A well regulated life—in work, in food and drink and habit, is essential. One should avoid worries and anxieties as far as possible

Presence of Fat in the diet of Coronary Disease and Atherosclerosis.

High cholestrol content of blood is said to be associated with *coronary heart disease and atherosclerosis. Foods rich in fat* should be restricted in the obese with high blood cholestrol and in the non-obese with high blood cholestrol and family history of heart disease and cardiac deaths. (Stare *et al*).

Diet in Acute Bacillary Dysentery

In the sthenic individual—be a child or an adult—boiled cool water to drink is advocated in the first twenty-four hours. If the patient be of poor nutrition, lactose water should be given. Thin barley water green cocoanut s water glucose or lactose water form the diet. No milk or alcohol or solid food be given at the begining. Gradually ghol, or lassi or butter milk is added to the diet in the third or fourth days according to severity and nature of bacterial infections—such as Shiga, Flexner or Sonne groups. Gruel of rice, barley water thin shati food or sago water are added with salt and sugar One-half to one-fifth of diluted normal saline or Darrow s oral drink; written before, may be given as drinks for replacement of electrolytes. In the acute stage no fruit juice or solid fruit be given. Gradually with recovery of the patient, solids are added such as over-boiled rice, boiled or smashed potato, boiled *fat free fresh-water small fishes, eggs, channa, vitamins etc.* The process of returning to the normal diet should spread over at least a week.

Diet in Cholera and acute Infantile Diorrhoea.

The principles will hold good here as in acute bacillary dysentery

Diet in Chronic ulcerative colitis.

The principle of diet here is high caloric, high protein in an

assimilable from, carbohydrate, and least amount of fat and high vitaminised food be given in small but repeated feeds according to the taste and liking of the patient The diet should contain least residue and no roughage at all. Vitamins may be administered parenterally where orally not possible Patients who were accustomed to milk diet before treatment may be given preparations of milk such as—skimmed milk ghol (fat free churned dahi) peptonised or citrated milk, channa etc. Those who are habituated to meat diet, boiled lean meat may be given If necessary to maintain nutrition—blood, plasma, concentrated human red blood corpuscles—transfusions or intravenous alimentation of protein hydrolysate with glucose and necessary vitamins—B complex and C are important.

Diet in Infective Hepatitis. (Viral Hepatitis, Catarrhal Jaundice)

Physical rest in bed is essential In the early stage, in presence of nausea and vomiting intravenous glucose-saline and protein hydrolysate with or without insulin are necessary In presence of pyrexia anorexia and clay-colored stool, generally liquid diet is given—rich in carbohydrate and no fat. Carbohydrate is given in the form of rice (gruel or over-boiled) barley water glucose water honey green cocoanut s water (sweet) etc and fruit juice particularly citrus. With the gradual improvement of the condition when appetite begins to return and the stool is bile stained, fat in the form of butter may be added to the diet to improve the taste Capps and Baker advocate-daily carbohydrate—300 g, protein—200 g and fat—65 g. Neither alcohol nor highly spiced diet be taken Sometimes recurrence is possible. Rest is enforced and the diet is controlled.

Cirrhosis of the Liver

Dietetic control consists in two stages of the disease—in early cases and in late cases with ascites.

In early cases—Patek' regime is an advancement in treatment. High protein and carbohydrate well vitaminised and low fat diet is advocated. Protein should be well tolerated. Milk protein is preferred It should be in the form of skimmed milk—liquid or powdered. Vitamins—B Complex and C are necessary Amino acids orally—are used markedly Methionine and choline are used—in doses of 1 to 3 Gm, three times a day They may be injected intravenously with glucose solution. Protein hydrolysate—orally or porenterally or both are used with benefit.

Alcohol mustard chillies and high spiced diets are contraindicated. Fruit juices of oranges and tomatoes etc and vegetables—raddish, spinach etc. fresh fruits and honey are advocated

In late cases with ascites—Sherlock advises low protein, low fat and high carbohydrate diet with plenty of vitamins and minerals. Methionine, choline, ammonium salts are not to be taken in advanced cases, as by bacterial decomposition in the intestines, these will increase ammonia content of the blood which is often associated with hepatic coma. Sodium chloride is restricted In its place potassium chloride is substituted. Bowels should be kept open.

Diet in Gastric and Duodenal Ulcer

The problem of dieteting in peptic ulcer is round two objectives—

(i) Healing of an ulcer (ii) Prevention of its recurrence. Management, in the acute stage of the ulcer when the patient, for the first time comes under a physician for treatment.—

Rest in bed for four to six weeks preferably in a hospital or

nursing home. Equanimity of mind and avoidance of worries and anxieties as far as possible, help a great deal.

Modified Sippy and Meulengracht diets are in common use. Hygiene and care of the mouth deserve attention. Pyorrhoea and dental caries are to be looked after by a dental surgeon

Diet.—The following scheme is advocated (Ganguli)

(i) Feeds are to be given at fixed intervals, starting at 8 o clock in the morning usually and ending at 10 o clock at night

(ii) Interval between the feeds two hours at the start,

(iii) Milk and milk products and an ounce of sugar a day The quantity of milk should be each time six ounces. In case the patient wakes up at night, the feeding may be given every four hours.

With milk, rice gruel, thin barley water may be added. Gradually—eggs-soft boiled or poached, butter sweet orange juice for vitamin C and vitamin B complex are added

Alkalies are given one hour after a feed according to the choice of the physician. In the mid-day meal or supper soft rice may be added to the milk mixture in the rice eating patients. Many of such patients are in the habit of taking one half to one ounce of fresh butter (not salted) with sugar candy first thing in the morning According to the economic status of the patient, he may have a milking goat or a cow or a milking female buffalo and can have plenty of milk. After the hospital stay is over he may take, milk, sago and sugar mixture in a thermo-flask and take it regularly every three to four hours in an office. When the patient is little better the following may be added to the diet—boiled rice, butter boiled and smashed potato boiled green plantain, small boiled fish boiled lean meat etc. with least amount of salt. For the vegetarinian, channa may be added as fresh with sugar or fried with sugar or sandesh etc. The total calories may be increased to 2500 Sippy advocates that a Ryle s tube be passed three hours after

the last meal. Gastric contents should be taken out and the stomach be washed with boiled and cold tap water It removes excess of hydrochloric acid gives rest to the ulcer from the corrosive action of the acid in the early hours of the morning. The patient is instructed to take a little butter and a biscuit, if he happens to be awake at dead of night.

In presence of stress and strain milk cream and sugar mixture may be taken every two hours The patient may have olive oil to prevent hypersecretion of hydrochloric acid and to keep the bowels open.

The writer has used extensively protein hydrolysate (Hydroprotein B I) in these patients. To tackle the night pain in the duodenal ulcer patients, an ounce of hydroprotein (Oral) was given every hour through a Ryle s tube. Pain subsided completely Another method is to administer milk and aluminium hydroxide mixture, through a Ryle s tube by drip method throughout the night.

Meulengracht advocates no fasting even in slight gastric hemorrhage. He advocates milk, eggs, cream and sugar mixtures. It helps contraction of the stomach wall, neutralization of the acid in gastric juice, and keeps the clot in tact and helps quick healing.

The following things are contra-indicated in an ulcer patient—alcohol, extra salt, meat soups, tobacco smoking, raw tobacco leaf, betel, and betel-nut, nuts, chillies-green, red or fried salty and sour food, highly spiced diets, mustard, *tamarind* sour chuteney etc.

Diet in Chronic Amoebiasis.

In chronic intestinal amoebiasis, the diet should be high caloric, high protein, moderate carbohydrate and *fat, well balanced, well vitaminised and of low residue.*

The source of protein be preferably be milk. Butter milk or dahl are advocated. Eggs and lean meat are good. For the vegetarinian channa is nice. Orange and tomato juices are beneficial. So also vitamin B complex in the form of yeast tablets. Small fat free fishes (of fresh water) are wholesome. Contrary to the popular belief—milk, butter bread, soft boiled eggs leave residue. (Hosoi Alverez and Mann). Hard boiled eggs are better absorbed and leave least residue. Things which are not to be taken by such patients are—alcohol, ice cream, iced sherbat brown atta, coarse vegetables peppers, highly spiced foods, fatty portions of big fishes, fats from animal sources, and a good quantity of sweets at a time. Gases are formed in the intestines of chronic amoebic patients. Constipation often alternates diarrhoea in such cases. Sher bat—prepared with the pulp of ripe bael fruit or the green bael (when thoroughly burnt) dahi (sweet) [and a little sugar or clean molasses form a nice cold drink in the hot summer It removes constipation and diarrhoea.

Diet in Kidney Diseases

In the treatment of nephritis by diet, our aim should be—(i) not to irritate the kidneys during excretion of the meta bolites, after ingestion of any kind of food (ii) to diminish as far as possible excretion of urea, uric acid, creatinine and salt. The common dictum runs—"In acute stage treat the organ, in chronic stage treat the system."

Acute Nephritis.—Haemorrhagic.—Ellis Type I Nephritis. Factors that determine the different food stuffs in the diet are—presence or absence of oedema, retention of non-protein nitrogen and potassium in the blood.

(i) At the onset, in presence of nausea and vomiting the diet consists of sweet orange or sweet lemon or green cucumber

juices with glucose or honey and water No saline diuretics or saline purgatives be given in such cases.

(ii) When the patient is a little better he should be given rice bread, milk, egg, sugar etc. When the secretion of urine increases, Horder advocates—*increase in the quantity or drinking water* High carbohydrate low protein and moderate fat diet is advocated Quantity of vegetable soup or fruit juice will be determined by the potassium content of the blood.

(iii) When there is clinical imporvement and the percentages of non-protein nitrogen or urea content of blood are normal, the diet may be increased in quantity of protein (preferably in the form of milk, eggs or small fish), high carbahydrate and moderate fat diet. The diet must be made palatable. Things contraindicated are—alcohol, spices, mustard, chillies etc.

Chronic Diffuse Nephritis Asscisted with Oedema and Marked Albumen In The Urine And No Haematuria. (Ellis Type II.)

As there is marked excretion of albumin in the urine, the total protein content of the blood is low It is incumbent on the physician to replenish the system with all possible means. High protein diet which can be taken with relish and digested, should be given small but repeated feeds. Milk, eggs, fish meat soup and lean meat, channa may be given according to taste. If necessary the diet may be supplemented by oral or parenteral protein hydrolysate therapy Salt free human albumin transfusion is indicated where it is available. If the urea content of the blood be 25 to 40 mg per cent (normal) the protein content of the diet should be cut down and regulated accordinkly Due to presence of oedema, sodium chloride intake should be restricted. The patient should be kept warm. There should be some restriction of fluid.

Chronic Renal Disease (Nephrosclerosis)

Raised blood presure and high urea content in blood charac terize the condition. With this potassium content of blood may be normal or raised The diet should contain about two pints (about a seer) of milk and one egg. Vegetable soup may be given acording to blood potassium level. Rich car bohydrate and a moderate amount of fat should be included in the diet The amount of protein in the diet should always be regulated by the blood chemistry Alkali reserve is often diminished Hence fruits and vegetables are advocated Alcohol is interdicted Over-weight is to be cut down Relaxation after meals and a bouyant mind are useful.

Anuria.

Anuria due to incompatible blood transfusion or renal caculi are often seen. The following mixture is advocated to be given through a Ryle s tube, by drip method, during twenty four hours (Bull et al)

Re,	Peanut oil	—100 g.
	Mucilage Acacia	—q s.
	Glucose	—400 g
	Aqua ad	—1 liter

If there is vomitus after ingestion it should be collected in a clean pot and seived and put again through the Ryle s tube.

Oxaluria

The object of dietetic treatment of oxaluria is round two important factors—(i) the food should be free of oxalates (ii) such food should be given that is not fermented in the stomach and the intestines and no oxalates are produced Foods, rich in oxalate are to be avoided such as—spinash rhubarb and other tubers such as arum, strawberries, beets,

tomatoes, tea, coffee, cocoa, lemon, apples, pine-apples etc. Sugar should be cut down. Milk and its preparations such as curd, rice, meat, limes, oranges, peas, fish should form the menu. One whose urine is loaded with oxalate crystals, should avoid taking plenty of fruits and vegetables. Excess of eating should be avoided.

Diseases of metabolism.

Gout

An accurate diagnosis of pretophaceous gout can be made on the combination of three findings—the charecteristics of the acute gout, the demonstration of an elevated serum urate level, and the therapeutic response to an intensive course of colchicine, properly administered (Robinson)

Diet—(i) During an acute attack—Dietary measures are not effective in the management of an acute attack. A soft diet rich in carbohydratate is advised, as carbohydrates help excretion of urate. Fats prevent excretion of urates, so fat is curtailed. Plenty of fluids and citrus fruits are advocated.

(ii) Interval Treatment—

Diet—Recent studies indicate that the effectiveness of dietary restriction is definitely limited as a means of producing negative urate balance. Exogenous purine formation can be limited by cutting down food rich in purines. Further restriction is not justified. It has been clearly demonstrated by tracer studies that purines are synthesized in the body from the precursor of glycine, formic acid, carbondioxide, and ammonia. The usefulness of dietetic restriction is limited (Robinson)

Priliminary evidence however shows that Purine biosynthesis may be accelerated in the gouty and normal individuals by increased intake of protein. Hence, in patients with severe gout, there should be restriction of protein intake, it should

be limited to 50 to 75 Gm in a day The least possible source of protein should be from plant and milk and milk products. (Robinson)

Diabetes Mellitus.

Diabetes mellitus is a metabolic disorder seen in this country It is more common in the intelligentia.

Diet—In mild cases of dibaetes mellitus, in the juvinlle, in young adults, in the elderly and in the obese, diet regulation and intelligent co-operation of the patient help to control it

In moderate and severe cases, regulation of the diet, insulin and exercise are the sheet anchors in treatment.

In fact, Joslin has shown in a twenty-five years study of diabetics, that strict adherence to regulated diet insulin dosage and exercise life may be prolonged and with no complications. These diabetics were examined by a body of experts and found to be free from complications of any system. The were rewarded with gold medals. It proves—"Eternal vigilance is the price of safety

Generally the diet advocated in an average adult diabetic, is—carbohydrate—150 to 200 g, fats—70 to 90 g, protein—80 to 100 g. Carbohydrate is spaced throughout the day according to the nature of physical wark Water boiled vegetables, fresh fruits free from sweetness, should be given plentifully In presence of avitaminosis, vitamins should be given in proper dose orally Cane sugar molasses or Gur should not be taken nor preparation containing any one of them. Care of the feet deserves attention Insulin injection should always be preceded by examination of the urine with Benedict s test. When insulin injection is started for the first time in the elderly always start with a small dose irrespective of the blood sugar determinations.

Introduction of slowly acting insulins is an advancement in insulin therapy Neglected cases of diabetes mellitus are seen with all complications—retinopathy nephropathy neuropathy and concomittant changes in the cardiovascular system. In the elderly in the obese and in the mild diabetics tolbutamide (1—buty 1—3—toly 1—sulfonyl—urea) is advocated.

One must remmber that we are to treat a patient—a man or a woman or a child—and not a disease entity The sole aim of treatment is to keep the patient fit, in children—of growth, efficient, free from complications, normal blood sugar and normal blood cholestrol and the urine free from other abnormalities.

Obesity

Diet in obesity —The main principles are—(I) low caloric diet aiming undernutrition (II) in carrying out this regimen no complication should arise. It is judicious that in the initial stage of treatment, the patient should enjoy bed rest. (Barker). Diet is the only treatment of obesity The only possible therapy is to obtain and develop a caloric deficit in the diet. The diet should be given in an air of confidence and success. If the physician has hesitation in prescribing the diet, it will fail. The patient should be fully impressed that he must assume responsibility—what he puts in his mouth He should be re-educated and re-habilated in matters of diet, which he should continue for the rest of his life. If he does not do it, he will soon lose weight temporarily to regain it with cessation of treatment. The diet should contain about 880 calories at the start. The diet must be adequate in protein otherwise the patient will lose organ tissue and muscle. Co-operation of the patient is essential. In a high fat diet—such as the American, where 40 to 41 per cent of the diet is in the form of fat. At least 30 per

cent of such fat should be cut down (Jolliffe) There should be a minimum of 50 Gm of carbohydrate so that no acidosis or undesirable features of burning excess of fat occurs. There should be sufficient vitamins and minerals these should be supplied either by the diet or by supplements. Gradually the calories may be increased to 1000

Marriott gives a list of weight reducing diets. (Brit Med. J 2 18. 1949)

(i) Things that can be taken by the patient—small fish with no fat —boiled and not fried with oil or butter or ghee. Lean meat. Eggs—boiled or poached. Boiled potato with no fat. Salads. Fresh non-sweet furits. Leafy and fresh vegetables, bananas. Sour soups and chutnies. Saccharine for sweeten ing agent. Tea and coffee with skimmed milk Dahl pre pared with skimmed milk. Rice

Things that are not to be taken by the patient—Fatty fishes or fatty portions of fishes. Cane-sugar or preparations of cane sugar or molasses or gur Fats. Ice cream. Milk puddings with rice or other carbohydrates. Jam. Jelly or sweet chut tney etc.

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